

**North Carolina State University**  
**ECG 748: Graduate International Trade**  
**Spring 2011**

**Syllabus**

Instructor: Ivan Kandilov  
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Class: M, W 4:30 PM - 5:45 PM, 2406 Nelson  
Office Hours: M, W 11:00 AM – 12:00 PM, and by appt.

**Course Requirements and Grades:**

Exam (M, Apr. 11, 4:30 PM – 5:45 PM, in class) - 40%  
Referee Report (Due M, Apr. 4, 3:00P, in class) - 20%  
Research Paper - (Due W, Apr. 27, 3:00 PM, in class) - 40%  
Homework - Two (long) assignments, NOT graded. Answers will also be distributed.

**Recommended Text:**

Feenstra, R., *Advanced International Trade: Theory and Evidence*, Princeton, NJ and Oxford: Princeton University Press, 2004.

**Additional Reading:**

Dixit, A. and V. Norman, *The Theory of International Trade*, New York: The Cambridge University Press, 1980.

Helpman, E. and P. Krugman, *Market Structure and Foreign Trade*, Cambridge, MA, and London: The MIT Press, 1985.

*Handbook of International Economics*: (for surveys of most topics in the course)

- Jones, R. and P. Kenen (eds.), *Handbook of International Economics*, Vol. I, Amsterdam: North Holland, 1984.
- Grossman, G. and K. Rogoff (eds.), *Handbook of International Economics*, Vol. III, Amsterdam: North Holland, 1995.
- Harrigan, J. and K. Choi (eds.), *Handbook of International Trade*, Basil Blackwell, 2002.

**On-line Resources for Journal Articles:**

JSTOR (journal articles mostly through 2007): <http://www.jstor.org/jstor>

ScienceDirect (for recent articles especially in Elsevier (North Holland) journals including the *Journal of International Economics*): <http://www.sciencedirect.com>

NBER (for NBER working papers): <http://papers.nber.org/papers.html>

## **Course Objectives:**

This course introduces theoretical and empirical techniques commonly used in international trade. Analytical trade theory, as it applies to pure elements of international trade, will be developed in detail.

## **Grading:**

An important component of the course is the research paper. The purpose of the research paper is to extend theoretically or empirically a specific topic in international trade. Each student should select a topic and prepare a short (one page) proposal due after Spring break on Mon., Mar. 14, 2011. We will discuss the topic and I will make recommendations at that time. The nature of the issue as it relates to the existing literature needs to be clearly described before you indicate what extensions you intend to make. The paper should be no longer than 20 pages double-spaced excluding tables, figures, and references. In my evaluation of the paper, I will place a major premium on two elements: (1) originality and (2) independence. Ideally, the student should develop a research paper with an eye for publication or presentation at a professional meeting.

Two homework assignments will be assigned. I encourage you to work together on these problems. They will not be graded but will give you an idea of what types of problems to expect on the exams.

A number of readings are required. Wherever possible, I plan to include links to these papers online. The vast majority can be downloaded from JSTOR. Required readings are marked with a “ \* ” on the reading list. The remaining entries are supplemental. Students should be prepared to participate in class discussions of the required readings. The department schedules a number of international economics seminars. Workshop participation is an essential part of your graduate educational experience. Attendance at these seminars is considered a mandatory requirement of the course. Workshops are typically held on the second and fourth Wednesdays of each month. I will announce those in class.

## Outline (with tentative dates in parenthesis):

### **I. Perfect Competition**

#### **1. Trade Equilibrium, Gains from Trade; and Comparative Advantage (Jan . 10, Jan. 12)**

\* Deardorff, A. (1980), “The General Validity of the Law of Comparative Advantage,” *Journal of Political Economy*, 88: 941-957.

\* Bernhofen, D. and J. Brown (2004), “A Direct Test of the Theory of Comparative Advantage: The Case of Japan” *Journal of Political Economy*, 112: 48-67.

#### **2. The Ricardian Model (Jan. 19, Jan. 24)**

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

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

Harrigan, J. (1997), "Technology, Factor Supplies and International Specialization: Estimating the Neoclassical Model," *American Economic Review*, 87: 475-494 (read after the Heckscher-Ohlin Model is covered).

### **3. The Heckscher-Ohlin Model (Jan. 26, Jan. 31, Feb. 2, Feb. 7)**

\* Jones, R. (1965), "The Structure of Simple General Equilibrium Models," *Journal of Political Economy*, 73: 557-572.

\* Deardorff, A. (1979), "Weak Links in the Chain of Comparative Advantage," *Journal of International Economics*, 9: 197-209.

\* Deardorff, A. (1982), "The General Validity of the Heckscher-Ohlin Theorem," *American Economic Review*, 72: 683-694.

Leamer, E. (1987), "Paths of Development in the Three-Factor, n-Good General Equilibrium Model," *Journal of Political Economy*, 95, 961-999.

Dornbusch, R., S. Fisher, P. Samuelson (1980), "Heckscher-Ohlin Theory with a Continuum of Goods," *Quarterly Journal of Economics*, 95, 203-224.

Ethier, W. (1984), "Higher Dimensional Issues in Trade Theory," in Jones, R. and P. Kenen (eds.), *Handbook of International Economics*, Vol. I, North Holland.

Deardorff, A. (1994), "The Possibility of Factor Price Equalization, Revisited," *Journal of International Economics*, 36: 167-175.

### **4. The Specific-Factors Model (Feb. 9)**

\* Neary, J. (1978), "Short-Run Capital Specificity and the Pure Theory of International Trade," *Economic Journal* 88: 488-510.

Grossman, Gene M. (1983), "Partially Mobile Capital : A General Approach to Two-sector Trade Theory." *Journal of International Economics*, 15(1-2): 1-17.

Hill, J.K., and J.A. M'endez (1983), "Factor Mobility and the General Equilibrium Model of Production." *Journal of International Economics*, 15(1-2): 19-26.

Mussa, M. (1978), "Dynamic Adjustment in the Heckscher-Ohlin-Samuelson Model." *Journal of Political Economy*, 86(5): 775-791.

## 5. Empirical Evidence (Feb. 14, Feb. 16)

\* Leamer, E. (1980), "The Leontief Paradox, Reconsidered," *Journal of Political Economy*, 88: 495-503.

\* Bowen, H., E. Leamer, and L. Sveikauskas (1987), "Multicountry, Multifactor Tests of the Factor Abundance Theory." *American Economic Review*, 77: 791-809.

\* Trefler, D. (1993), "International Factor Price Differences: Leontief Was Right!" *Journal of Political Economy*, 101: 961-987.

\* Trefler, D. (1995), "The Case of the Missing Trade and other HOV Mysteries," *American Economic Review*, 85: 1029-1046.

\* Davis, D. and D. Weinstein (2001a), "An Account of Global Factor Trade," *American Economic Review*, 85: 1029-1046.

\* Debaere, P. (2003), "Relative Factor Abundance and Trade," *Journal of Political Economy*, 111: 589-609.

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.)

Fitzgerald, D. and J. Hallak (2003), "Specialization, Accumulation, and Development," forthcoming, *Journal of International Economics*.

Bernard, A., B. Jensen, and P. Schott (2004), "Survival of the Best Fit: Exposure to Low-Wage Countries and the (Uneven) Growth of U.S. Manufacturing Plants," forthcoming in *Journal of International Economics*.

Deardorff, A. (1984), "Testing Trade Theories and Predicting Trade Flows," in Jones, R. and P. Kenen and R. Jones (eds.), *Handbook of International Economics*, Vol. I, North Holland.

Leamer, E. and J. Levinsohn (1995), "International Trade Theory: The Evidence," in G. Grossman and K. Rogoff (eds.), *Handbook of International Economics*, Vol. III, North Holland.

Davis, D., D. Weinstein, S. Bradford, and K. Shimpo (1997), "Using International and Japanese Regional Data to Determine When the Factor Abundance Theory of Trade Works," *American Economic Review*, 87, 421-46.

Gabaix, X. (1997), "The Factor Content of Trade: A Rejection of the Heckscher-Ohlin-Leontief Hypothesis", mimeo.

Davis, D. and D. Weinstein (2001b), "Do Factor Endowments Matter for North-North Trade?" NBER WP 8516.

## **II. Monopolistic Competition**

### **1. Economies of Scale and Intra-industry Trade (Feb. 21, Feb. 23, Feb. 28)**

\* Krugman, P. (1980), "Scale Economies, Product Differentiation, and the Pattern of Trade," *American Economic Review*, 70: 950-959.

\* Krugman, P. (1979), "Increasing Returns, Monopolistic Competition, and International Trade," *Journal of International Economics*, 9: 469-479.

Davis, D. (1998), "The Home Market, Trade, and Industrial Structure," *American Economic Review*, 88: 1264-1276.

### **2. Integrating Heckscher-Ohlin and Economies of Scale. Inter- and Intra-industry Trade**

Romalis, J. (2004), "Factor Proportions and the Structure of Commodity Trade," *American Economic Review*, 94 (1): 67-97.

### **3. New Economic Geography**

Krugman, P. and A. Venables (1995), "Globalization and the Inequality of Nations", *Quarterly Journal of Economics*, 110, 857-880.

Krugman, P. (1991), "Increasing Returns and Economic Geography," *Journal of Political Economy*, 99: 483-499.

### **4. Empirical Evidence (Mar. 2)**

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

\* Debaere, P., "Monopolistic Competition and Trade, Revisited: Testing the Model without Testing for Gravity," *Journal of International Economics* 66 (1), 249-266.

## **III. Alternative Market Structures and Preferences**

### **1. Oligopoly (Mar. 14)**

\* Brander, J. and P. Krugman (1983), "A Reciprocal Dumping Model of International Trade," *Journal of International Economics*, 15: 313-321.

## **2. Vertical Differentiation (Mar. 16)**

\* Schott, P. (2004), "Across-Product versus Within-Product Specialization in International Trade," *Quarterly Journal of Economics*, 119 (2), 647-678.

\* Hummels, D and P. Klenow (2005), "The Variety and Quality of a Nations Exports," *American Economic Review*, 95(3): 704-723.

Flam, H. and E. Helpman (1987), "Vertical Product Differentiation and North-South Trade," *American Economic Review*, 77: 810-822.

Vernon, R. (1966), "International Investment and International Trade in the Product Cycle," *Quarterly Journal of Economics*, 80, 190-207.

Hallak, J. (2005), "Product Quality, Linder, and the Direction of Trade," *Journal of International Economics* 68 (1), 238-265.

## **3. Demand Non-homotheticities**

Hunter, L. (1991), "The Contribution of Non-homothetic Preferences to Trade," *Journal of International Economics*, 30: 345-358.

Hunter, L. and J. Markusen (1988), "Per-Capita Income as a Determinant of Trade," in R. Feenstra (ed.), *Empirical Methods for International Trade*, MIT Press.

Matsuyama, K. (2000), "A Ricardian Model with a Continuum of Goods under Nonhomothetic Preferences: Demand Complementarities, Income Distribution and North-South Trade," *Journal of Political Economy*, 108, 1093-1120.

Choi, Y., Hummels, D., Xiang, C. (2007), "Explaining Import Variety and Quality: The Role of the Income Distribution", Mimeo, Purdue University.

Mitra, D., Trindade, V. (2005), "Inequality and Trade", *Canadian Journal of Economics* 38(4), 1253-1271.

## **IV. Firm-level Heterogeneity and Multinationals**

### **1. Firm-Level Heterogeneity, Exporting, and Productivity (Mar. 21, Mar. 23)**

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

\* Bernard, A. and J. B. Jensen (1999), "Exceptional Exporter Performance: Cause, Effect or Both?" *Journal of International Economics*, 47: 1-25.

Bernard, A., J. Eaton, J. B. Jensen, and S. Kortum (2003), "Plants and Productivity in International Trade," *American Economic Review*, 93: 1268-1290.

Bernard, A., S. Redding, and P. Schott (2007), "Comparative Advantage and Heterogeneous Firms," *Review of Economic Studies* 74: 31-66.

Bernard, A. and J. B. Jensen (2004), "Exporting and Productivity in the US," mimeo.

Tybout, J. (2001), "Plant- and Firm-level Evidence on New Trade Theories," NBER Working Paper 8418.

Yeaple, S. (2005), "A Simple Model of Firm Heterogeneity, International Trade, and Wages", *Journal of International Economics* 65 (1): 1-20.

## **2. Multinational Firms and International Sourcing (Mar. 28)**

\* Markusen, J. (1995), "The Boundaries of Multinational Enterprises and the Theory of International Trade," *Journal of Economic Perspectives* 9, 169-189.

Helpman, E., M. Melitz, and S. Yeaple (2004), "Export Versus FDI with Heterogeneous Firms," *American Economic Review*, 94, 300-316.

Antras, P. and E. Helpman (2004), "Global Sourcing," *Journal of Political Economy*, 112, 552-580.

Smarzynska, B. (2004), "Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In Search of Spillovers through Backward Linkages," *American Economic Review*, 94, 605-627.

Ethier, W. (1986), "The Multinational Firm," *Quarterly Journal of Economics*, 101, 805- 834.

Brainard, L. (1997), "An Empirical Assessment of the Proximity-Concentration Trade-off between Multinational Sales and Trade," *American Economic Review*, 87: 520-544.

Markusen, J. and A. Venables (2000), "The Theory of Endowment, Intra-Industry, and Multinational Trade", *Journal of International Economics*, 52, 209-234.

Antras, P. (2003), "Firms, Contracts, and Trade Structure," *Quarterly Journal of Economics*, 118, 1374-1418.

## **V. Trade Policy**

### **1. Trade Policy under Perfect Competition (Mar. 30)**

Krishna, P. and A. Panagariya (2000), "A Unification of Second Best Results in International Trade," *Journal of International Economics*, 52: 235-257.

### **2. Trade Policy under Imperfect Competition (Apr. 4, Apr. 6)**

\* Brander, J. and B. Spencer (1984), "Tariff Protection and Imperfect Competition," in H. Kierzkowski (ed.), *Monopolistic Competition and International Trade*, Oxford University Press; also in G. Grossman (ed.), *Imperfect Competition and International Trade*, 1992, The MIT Press.

Krugman, P. (1984), "Import Protection as Export Promotion: International Competition in the Presence of Oligopoly and Economies of Scale," in H. Kierzkowski (ed.), *Monopolistic Competition and International Trade*, Oxford University Press; also in G. Grossman (ed.), *Imperfect Competition and International Trade*, 1992, The MIT Press.

Eaton, J. and G. Grossman (1986), "Optimal Trade and Industrial Policy under Oligopoly," *Quarterly Journal of Economics*, 101, 603-607.

Markusen, J. and A. Venables (1988), "Trade Policy with Imperfect Competition: Contradictory Results from Competing Assumptions," *Journal of International Economics*, 24: 299-316.

### **3. Empirical Work (Apr. 13)**

\* Baylis, K. and J. Perloff, "Trade Diversion from Tomato Suspension Agreements," forthcoming, *Canadian Journal of Economics* 2010 (see Baylis's website at U. of Illinois).

\* Broda, C., Limao, N., Weinstein, D. (2008), "Optimal Tariffs: The Evidence," *American Economic Review* 98(5): 2032-65.

Levinsohn, J. (1993), "Testing the Imports as Market Discipline Hypothesis," *Journal of International Economics*, 35: 1-22.

Head, K. and J. Ries (1999), "Rationalization Effects of Tariff Reductions," *Journal of International Economics*, 47: 295-320.

Berry, S., J. Levinsohn, and A. Pakes (1999), "Voluntary Export Restraints on Automobiles: Evaluating a Strategic Trade Policy," *American Economic Review*, 89: 400-430.

Pavcnik, N. (2002), "Trade Liberalization, Exit, and Productivity Improvements: Evidence from Chilean Plants," *Review of Economic Studies*, 69, 245-276.

## **VI. Additional Topics**

### **1. Trade and Labor Markets in the U.S. (Apr. 18)**

\* Revenga, A., (1992), Exporting Jobs: The Impact of Import Competition on Employment and Wages in U.S. Manufacturing. *Quarterly Journal of Economics*, 107: 255-284.

\* Berman, E., J. Bound, and Z. Griliches (1994), Changes in the Demand for Skilled Labor within U.S. Manufacturing Industries: Evidence from the Annual Survey of Manufactures, *Quarterly Journal of Economics*, May.

\* Bernard, A. and B. Jensen (1997), "Exporters, Skill Upgrading and the Wage Gap." *Journal of International Economics*, 42: 3-32.

Slaughter, M. (1999), "Globalization and Wages: A Tale of Two Perspectives," *World Economy*, 22: 609-630.

Feenstra, R. and G. Hanson (1999), "The Impact of Outsourcing and High-Technology Capital on Wages: Estimates for the United States, 1979-1990." *Quarterly Journal of Economics*, 114(3): 907-940.

Feenstra, R. and G. Hanson (1996), "Globalization, Outsourcing and Wage Inequality." *American Economic Review*, 86(2): 240-245.

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 # 6591)

Slaughter, Matthew J. (2001), "International Trade and Labor-Demand Elasticities," *Journal of International Economics*, 54: 27-56.

Kandilov, Ivan T. (2008), "How Import Competition Affects Displaced U.S. Workers." Mimeo, NC State.

Kandilov, Ivan T. (2009), "The Effects of Trade with Developing Countries on the Regional Demand for Skill in the U.S.: Evidence from County Data" *Journal of Regional Science*, forthcoming.

### **2. Trade and Labor Markets Abroad (Apr. 20)**

\* Berman, E., J. Bound, and S. Machin (1998), "Implications of Skill-Biased Technological Change: International Evidence." *Quarterly Journal of Economics*, 113(4).

Feenstra, R.C. and G.H. Hanson (1997), "Foreign Direct Investment and Wage Inequality: Evidence from Mexico's Maquiladoras." *Journal of International Economics*, 42: 371-393.

Revenge, Anna L (1997), "Employment and Wage Effects of Trade Liberalization: The Case of Mexican Manufacturing." *Journal of Labor Economics* 15(3): S20-43.

Currie, Janet, and Ann Harrison (1997), "Trade Reform and Labor Market Adjustment in Morocco." *Journal of Labor Economics*, 15: S44-71.

Pavcnik, Nina (2003), "What Explains Skill Upgrading in Less Developed Countries?" *Journal of Development Economics*, 71: 311-328.

Attanasio, Orazio, Pinelopi Goldberg and Nina Pavcnik (2004), "Trade Reforms and Wage Inequality in Colombia." *Journal of Development Economics*, 74: 331-366.

Robertson, Raymond (2004), "Relative Prices and Wage Inequality: Evidence from Mexico." *Journal of International Economics*, 64(2): 387-409.

Goldberg, Pinelopi and Nina Pavcnik (2004), "Trade, Inequality, and Poverty: What Do We Know? Evidence from Recent Trade Liberalization Episodes in Developing Countries." NBER Working Paper 10593.

Verhoogen, Eric (2008), "Trade, Quality Upgrading and Wage Inequality in the Mexican Manufacturing Sector: Theory and Evidence from an Exchange- Rate Shock." *Quarterly Journal of Economics* 123, 489-530.

Kandilov, Ivan T. (2009), "Do Exporters Pay Higher Wages? Evidence from an Export Refund Policy in Chile," *World Bank Economic Review* 23(2): 269-294.

### **3. Trade and the Environment**

Antweiler, W., B. Copeland and M. Scott Taylor, (2001), "Is Free Trade Good for the Environment?", *American Economic Review*, 91(4): 877-908.

Frankel, J. and A. Rose, (2005) "Is Trade Good or Bad for the Environment? Sorting Out the Causality", *Review of Economics and Statistics*, 87(1): 85-91.

Copeland, Brian and M. Scott Taylor, (2003) *Trade and the Environment: Theory and Evidence* , Princeton University Press, 2003.

Eskeland G. and A. Harrison, (2003) "Moving to Greener Pastures? Multinationals and the Pollution Haven Hypothesis", *Journal of Development Economics*, Volume 70, Issue 1, 2003, pages 1-23.

Beata Smarzynska Javorcik and Shang-Jin Wei, (2004), "Pollution Havens and Foreign Direct Investment: Dirty Secret or Popular Myth?" *Contributions to Economic Analysis and Policy* 3 (2).

#### **4. Political Economy of Trade**

Grossman, Gene M. and Elhanan Helpman (1994), "Protection for Sale." *American Economic Review* 84(4): 833-50.

Goldberg, Pinelopi Koujianou and Giovanni Maggi (1999), "Protection for Sale: An Empirical Investigation." *American Economic Review* 89(5): 1135-55.

Rodrik, Dani. 1995. "Political Economy of Trade Policy," in Gene Grossman and Kenneth Rogoff, eds., *Handbook of International Economics*, vol. III. Amsterdam: Elsevier Science.

Matschke, X., Sherlund, S. (2006), Do labor issues matter in the determination of U.S. trade policy? An empirical reevaluation." *American Economic Review* 96, 405-421.

#### **5. Trade and Agriculture (Apr. 25, Apr. 27)**

\*Cho, G., I. Sheldon, S. McCorriston (2002), "Exchange Rate Uncertainty and Agricultural Trade," *American Journal of Agricultural Economics* 84:931-942.

\*Kandilov, I. (2008), "The Effects of Exchange Rate Volatility on Agricultural Trade," *American Journal of Agricultural Economics* 90(4): 1028-1043.

Karp, Larry and Jeffrey Perloff (2002), "A Synthesis of Agricultural Trade Economics." *Handbook of Agricultural Economics*, Volume 2B, North-Holland.

Sumner, D. and S. Tangermann (2002), "International Trade Policy and Negotiations," *Handbook of Agricultural Economics*, Volume 2B, North-Holland.

#### **6. Distance and Trade Costs**

Rauch, James (1999), "Networks vs. Markets in International Trade", *Journal of International Economics* 48: 7-37.

Rauch, J., Trindade, V. (2002), Ethnic Chinese networks in international trade. *Review of Economics and Statistics* 84, 116--130.

Kandilov, I., Grennes, T. (2007), "The Determinants of Service Offshoring: Does Distance Matter?" Mimeo, NC State.

Engel, Charles and John H. Rogers. 1996. "How Wide Is the Border?" *American Economic Review* 86: 1112-1125.

Anderson, James E. and Eric van Wincoop. 2000. "Gravity with Gravitas: A Solution to the Border Puzzle." *American Economic Review* 93(1): 170-193.

Goodwin B., Grennes, T. and M. Wohlgenant (1990), “A Revised Test of the Law of One Price Using Rational Price Expectations.” *American Journal of Agricultural Economics*, 72:682-693.

D. Hummels (2001), “Toward a Geography of Transport Costs”, mimeo, Purdue University

## **7. Bilateral and Multilateral Trade Agreements**

G. Grossman and E. Helpman (1995), “The Politics of Free Trade Agreements,” *American Economic Review* 85(4): 667-690.

K. Bagwell and R. Staiger (1999), “An Economic Theory of GATT,” *American Economic Review* 89(1): 215-48.

P. Krishna (1998), “Regionalism and Multilateralism: A Political Economy Approach,” *Quarterly Journal of Economics* 113(1): 227-51.

Limao, N. (2006), “Preferential Trade Agreements as Stumbling Blocks for Multilateral Trade Liberalization: Evidence for the U.S.” *American Economic Review* 96(3): 896-914.