

Princeton University  
Department of Economics

**ECONOMICS 551: INTERNATIONAL TRADE I**

T-Th: 9:00–10:30 am  
Bendheim Hall 317

Instructor:

Gene Grossman  
300 Fisher Hall, ext. 4823  
email: grossman@princeton.edu  
Office Hours: By appointment

Content:

This course will cover the causes and consequences of international trade, including the determinants of the trade pattern, the role of multinational corporations, and the relationship between trade and growth. Economics 552: International Trade II, a six-week course that will be offered in the Spring Term, will deal with trade policy.

Books:

There are no required textbooks. The following books are cited in the reading list by the abbreviations indicated. All are available on reserve in the library. Some copies of the starred books are available for purchase in the University Store; those intending to do research in this field may want to have them in their personal libraries.

- Jagdish Bhagwati (ed.), *International Trade: Selected Readings*, second edition 1987 (B)  
\*Avinash Dixit and Victor Norman, *Theory of International Trade* (DN)  
Gene Grossman (ed.), *Imperfect Competition and International Trade* (G)  
\*Gene Grossman and Elhanan Helpman, *Innovation and Growth in the Global Economy* (GH)  
Gene Grossman and Ken Rogoff, *Handbook of International Economics*, vol.3 (GR)  
\*Elhanan Helpman and Paul Krugman, *Market Structure and Foreign Trade* (HK)  
Ronald Jones and Peter Kenen, *Handbook of International Economics*, vol.1 (JK)  
Paul Krugman, *Rethinking International Trade* (K)  
Edward Leamer, *Sources of International Comparative Advantage* (L1)  
\*Edward Leamer (ed.), *International Economics* (L2)

## COURSE OUTLINE AND READING LIST

The readings are divided into essential, required and recommended. The essential items should be read before the lecture on the topic. The required items should be read sometime during the term. The recommended list contains more specialized or advanced material as well as classics. Those planning to do research in the area should read these as well. The essential and required items (and many of the recommended) have been placed on reserve in Firestone library. The online version of this list contains hyperlinks to working papers and papers available from JSTOR.

### I. INTRODUCTION: CAUSES OF TRADE AND GAINS FROM TRADE

#### Essential:

K, chapter 5.  
DN, chapter 3, pp.65-80.

#### Required:

A. Deardorff, "[The general validity of the law of comparative advantage](#)," JPE 1980, 941-957, reprinted in L2.  
A. Dixit and V. Norman, "Gains from trade without lump-sum compensation," JIE 1986, 111-122.  
E. Helpman, chapter 7 in JK, pp.327-337, 348-354.

#### Recommended:

R.E. Baldwin, "The new welfare economics and the gains from international trade," QJE 1952.  
P.A. Samuelson, "The gains from international trade once again," EJ 1962.  
M.C. Kemp, "The gains from international trade," EJ 1962.  
M. Ohyama, "Trade and welfare in general equilibrium," *Keio Economic Studies*, 1972.  
M.A.M. Smith, "Intertemporal gains from trade," JIE 1979.  
G. Grossman, "The gains from international factor movements," JIE 1984.

### II. TRADE EQUILIBRIUM: PERFECT COMPETITION

#### A. Factor Endowments: Special Models

#### Essential:

R. Jones and P. Neary, "The positive theory of international trade," in JK .  
L1, chapter 1.

#### Required:

R. Jones, "[The structure of simple general-equilibrium models](#)," JPE 1965, 557-572, reprinted in L2.  
J. Bhagwati, "[The Heckscher-Ohlin theorem in the multi-commodity case](#)," JPE 1972, 1052-1055.  
DN, chapter 2 (pp.30-59), 3 (pp.80-88).

#### Recommended:

M. Mussa, "The two-sector model in terms of its dual," JIE 1980, reprinted in B.  
A. Deardorff, "Weak links in the chain of comparative advantage," JIE 1979, reprinted in B.  
J.P. Neary, "Short-run capital specificity and the pure theory of international trade," AER 1978, reprinted in B.

- M. Mussa, "Dynamic adjustment in the Heckscher-Ohlin-Samuelson model," JPE 1978.  
 R. Jones and J. Scheinkman, "The relevance of the two-sector production model in trade theory," JPE 1977.  
 R. Jones, "Two-ness in trade theory," IFS Special Paper No. 12.

### **B. Factor Endowments: General Theory**

#### Essential:

HK, chapter 1.

#### Required:

- W. Ethier, "Higher dimensional trade theory," in JK.  
 A. Deardorff, "[The general validity of the Heckscher-Ohlin theorem](#)," AER 1982, 683-694.  
 E. Helpman, "[The factor content of foreign trade](#)," EJ 1984, 84-94.  
 DN, chapter 4.

### **C. Technological Differences**

#### Essential:

- R. Dornbusch, S. Fischer and P. Samuelson, "[Comparative advantage, trade, and payments in a Ricardian model with a continuum of goods](#)," AER 1977, 823-839.

#### Required:

- D. Trefler, "[International factor price differences: Leontief was right!](#)" JPE 1993, 961-987, secs. II and III.  
 D. Davis, "[Intra-industry Trade: A Heckscher-Ohlin-Ricardo approach](#)," JIE 1995, 201-226.

#### Recommended:

- J. Markusen and L. Svensson, "Trade in goods and factors with international differences in technology," IER 1985.

### **D. Empirical Studies: Pattern of Trade**

#### Essential:

- L, chapters 2, 6.  
 E. Leamer and J. Levinsohn, "International trade theory: The evidence," in GR.  
 E. Helpman, "The structure of foreign trade", *Journal of Economic Perspectives*, Spring 1999, 121-144.

#### Required:

- J. Eaton and S. Kortum, "Technology, Geography and Trade," Ema, forthcoming. Available at: <http://econ.bu.edu/eaton/tgt501.pdf>.  
 E. Leamer, "[The Leontief paradox reconsidered](#)," JPE 1980, reprinted in B and L2.  
 D. Trefler, "[The case of the missing trade and other HOV mysteries](#)," AER 1995, reprinted in L2.  
 D. Davis and D. Weinstein, "The factor content of trade," forthcoming, J. Harrigan, ed., *Handbook of International Trade*. Available at [http://www.columbia.edu/~drd28/Hdbk\\_Empir.pdf](http://www.columbia.edu/~drd28/Hdbk_Empir.pdf).

D. Davis and D. Weinstein, "[An account of global factor trade](#)," AER 2001, 1423-1453.

J. Romalis, "Factor Proportions and the Structure of Commodity Trade" Available at:  
<http://gsbwww.uchicago.edu/fac/john.romalis/research/factor.pdf>

Recommended:

L, chapters 3, 4, and 5.

A. Deardorff, "Testing trade theories and predicting trade flows," in JK.

R.E. Baldwin, "Determinants of the commodity structure of U.S. trade," AER 1971.

H. Bowen et al, "A multi-country, multi-factor test of the factor abundance theory," AER 1987, reprinted in L2.

D. Trefler, "International factor price differences: Leontief was right!" JPE 1993.

L. Hunter and J. Markusen, "Per-capita income as a determinant of trade," in R. Feenstra (ed.), *Empirical Methods for International Trade*, 1988.

L. Hunter, "The contribution of non-homothetic preferences to trade," JIE 1991.

### **E. Empirical Studies: Factor Prices**

Required:

E. Leamer, "In search of Stolper-Samuelson Effects on U.S. Wages," in S. Collins, ed., *Exports, imports and the American economy*, Brookings, 1998, reprinted in L2.

Recommended:

L. Katz and K. Murphy, "Changes in relative wages, 1963-1987: Supply and demand factors," QJE 1992.

R. Lawrence and M. Slaughter "Trade and U.S. wages: Great sucking sound or small hiccup?" Brookings Papers on Economics, 1993, reprinted in L2.

E. Leamer, "What's the use of factor contents?" JIE 2000.

P. Krugman, "Technology, trade and factor prices," JIE 2000.

J. Sachs and H. Shatz, "Trade and jobs in US manufacturing," Brookings Papers on Economic Activity, 1994.

J. Sachs and H. Shatz, "International trade and wage inequality in the United States: Some new results", in S. Collins, ed., *Exports, imports and the American economy*, Brookings, 1998.

G. Grossman and J. Levinsohn, "Import competition and the stock market return to capital," AER 1989.

## **III. TRADE EQUILIBRIUM: SCALE ECONOMIES AND IMPERFECT COMPETITION**

### **A. External Economies**

Essential:

HK, chapter 3.

E. Helpman, "Increasing returns, imperfect markets and trade theory," in JK, pp. 337-348.

Required:

W. Ethier, "Internationally decreasing costs and world trade," JIE 1979, 1-24.

Recommended:

A. Panagariya, "Variable returns to scale and patterns of specialization," AER 1981.

### **B. Oligopoly**

#### Essential:

HK, chapter 5

#### Required:

J. Brander and P. Krugman, "A reciprocal dumping model of international trade," JIE 1983, 313-321, reprinted in G,K, L2.

D. Bernheim and M. Whinston, "[Multimarket contact and collusive behavior](#)," *Rand Journal of Economics*, 1990, 1-26.

#### Recommended:

S. Ben Zvi and E. Helpman, "Oligopoly in Segmented Markets," in G.

### **C. Monopolistic Competition: Theory**

#### Essential:

E. Helpman, "Monopolistic competition in trade theory," IFS Special Paper No.16.  
HK, chapters 6-9.

#### Required:

P. Krugman and A. Venables, "[Globalization and the inequality of nations](#)," QJE 1995, 857-880.

M. Melitz, "The impact of trade on intra-industry reallocations and aggregate industry productivity," NBER Working Paper No. 8881, April 2002. <http://papers.nber.org/papers/w8881.pdf>.

G. Grossman and E. Helpman, "Outsourcing in a Global Economy," NBER Working Paper No. 8728, January 2002. <http://papers.nber.org/papers/w8728.pdf>.

#### Recommended:

DN, chapter 9, section 3, reprinted in G

P. Krugman, "Increasing returns, monopolistic competition, and international trade," JIE 1979, reprinted in B, L2 and K

P. Krugman, "Intraindustry specialization and the gains from trade," JPE 1981, reprinted in K.

P. Krugman, "Scale economies, product differentiation and the pattern of trade," AER 1980, reprinted in G and K.

E. Helpman, "International trade in the presence of product differentiation, economies of scale, and monopolistic competition," JIE 1981, reprinted in G.

W. Ethier, "National and international returns to scale and the modern theory of international trade," AER 1982, reprinted in G, L2.

### **D. Monopolistic Competition: Empirics**

#### Required:

D. Hummels and J. Levinsohn, "[Monopolistic competition and international trade: Reconsidering the evidence](#)," QJE, 1995, 799-836. Excerpted in L2.

P. Debaere, "Testing 'new' trade theory without testing for gravity: Re-interpreting the evidence," Unpublished.

D. Davis and D. Weinstein, "Does economic geography matter for international specialization," NBER Working paper No. 5706. Available at: <http://www.columbia.edu/~drd28/geo1.pdf>.

Recommended:

E. Helpman, "Imperfect competition and international trade: Evidence from fourteen industrial countries," *Journal of Japanese and International Economics*, 1987.

D. Davis and D. Weinstein, "Economic geography and regional production structure: An empirical investigation," EER 1999.

S.J. Evenett and W. Keller, "On theories explaining the success of the gravity equation," JPE forthcoming.

### **E. Multinational Corporations**

Essential:

J. Markusen, "[The boundaries of multinational enterprises and the theory of international trade](#)," *Journal of Economic Perspectives*, 1995, 169-189.

Required:

HK, chapters 12, 13.

J. Markusen and A. Venables, "The theory of endowment, intra-industry and multinational trade," JIE 2000, 209-234.

Recommended:

J. Markusen, "Multinationals, multi-plant economies, and gains from trade," reprinted in B and L2.

E. Helpman, "Multinational corporations and trade structure," *RES*, 1985, reprinted in G.

W. Ethier, "The multinational firm," QJE 1986, reprinted in G.

L. Brainard, "An empirical assessment of the proximity-concentration tradeoff between multinational sales and trade," AER 1997, 520-44.

L. Brainard, "An empirical assessment of the factor proportions explanation of multinational sales," NBER Working Paper No. 4583

## **IV. TRADE DYNAMICS**

### **A. Factor Accumulation**

Required:

A. Smith, "Capital theory and trade theory," in JK.

J. Ventura, "[Growth and interdependence](#)," QJE 1997, 57-84.

D. Acemoglu and J. Ventura, "The world income distribution," NBER Working Paper No. 8083, January 2001. Available at: <http://papers.nber.org/papers/w8083.pdf>

Recommended:

M.A.M. Smith, "Capital accumulation in the open two-sector economy," EJ 1977, reprinted in B.

R. Findlay, "Factor proportions and comparative advantage in the long run," JPE 1970, reprinted in B.

## B. Exogenous Technological Progress

### Essential:

G. Grossman and E. Helpman, “Technology and trade”, sec.2, in GR.

### Required:

P. Krugman, “A 'Technology Gap' model of international trade,” in K.

### Recommended:

J. Bhagwati, “Immiserizing growth: A geometric note,” *Review of Economic Studies* 1958

R. Findlay and H. Grubert, “Factor intensities, technological progress and the terms of trade,” reprinted in B1

P. Krugman, “A model of innovation, technology transfer, and the world distribution of income,” JPE 1979, reprinted in K.

## C. Learning by Doing

### Essential:

G. Grossman and E. Helpman, “Technology and trade,” sec.3, in GR.

### Required:

P. Krugman, “The narrow moving band, the Dutch disease, and the competitive consequences of Mrs. Thatcher,” (sections 1-4), *Journal of Development Economics* 1987, 41-55 reprinted in K.

A. Young, “[Learning by doing and the dynamic effects of international trade](#),” QJE 1991, 369-405.

E. Bresiz, P. Krugman, and D. Tsiddon, “[Leapfrogging in international competition](#),” AER 1993, 1211-1219.

## D. Endogenous Innovation

### Essential:

G. Grossman and E. Helpman, “Technology and trade,” sec.4, in GR.

### Required:

GH, chs. 3 (skim), 4 (skim), 7, 8, 9

### Recommended:

L. Rivera-Batiz and P. Romer, “Economic integration and endogenous growth,” QJE 1991, reprinted in G.

L. Rivera-Batiz and P. Romer, “International trade and endogenous technological progress,” *European Economic Review* 1991.

G. Grossman and E. Helpman, “Product development and international trade,” JPE 1989, reprinted in G.

## E. North-South Trade and the Product Cycle

### Required:

GH, chapter 11.

Recommended:

R. Vernon, "International investment and international trade in the product cycle," QJE 1966.  
GH, chapter 12.

**F. Trade and Growth: Empirics**

Required:

W. Keller, "International Technology Diffusion," NBER Working Paper No. 8573, October 2001. Available at:  
<http://papers.nber.org/papers/w8573.pdf>  
J. Frankel and D. Romer "Does trade cause growth?" AER 1999, 379-399.  
F. Rodriguez and D. Rodrik, "Trade policy and growth: A skeptic's guide to the cross national evidence," *NBER Macroeconomics Annual 2000* <http://ksghome.harvard.edu/~drodrik.academic.ksg/skepti1299.pdf>

Recommended:

D.T. Coe and E. Helpman, "International R&D spillovers," *European Economic Review* 1995.  
D.T. Coe, E. Helpman and A. Hoffmaister, "North-South R&D spillovers," EJ 1997.

**V. OTHER DETERMINANTS OF TRADE PATTERNS**

**A. Location and Trading Costs**

Required:

C. Engel and J.H. Rogers, "[How wide is the border](#)," AER 1996, 1112-1125, reprinted in L2.  
J. Anderson and E. van Wincoop, "Gravity with gravitas: A solution to the border puzzle," NBER Working Paper No. 8079, January 2001. Available at: <http://papers.nber.org/papers/w8079.pdf>.

Recommended:

A. Deardorff, "Local comparative advantage: Trade costs and the pattern of trade." Unpublished, 2001. Available at:  
<http://www.econ.lsa.umich.edu/~alandear/writings/lca.pdf>.



## B. Trade and Environment

### Required:

- B. Copeland and S. Taylor, "[North-South trade and the environment](#)," QJE 1994, 755-787.  
 B. Copeland and S. Taylor, "[Trade and transboundary pollution](#)," AER 1995, 716-737.  
 B. Copeland, S. Taylor and W. Antweiler, "Is free trade good for the environment?" AER 2001, 877-908.

### Recommended:

- B. Copeland and S. Taylor, "Trade, growth and the environment." Unpublished, 2002. Available at:  
<http://www.econ.ubc.ca/copeland/review.pdf>.

## C. Trade and Labor Markets

### Required:

- D. Davis, "[Does European unemployment prop up American wages? National labor markets and global trade](#)," AER 1998, 479-494. Reprinted in L2  
 G. Grossman and G. Maggi, "Trade and diversity," AER 2000, 1255-1275.  
 G. Grossman, "The distribution of talent and the pattern and consequences of international trade." Unpublished, 2002.  
 Available at: <http://www.princeton.edu/~grossman/Talent060402.pdf>.

### Recommended:

- B. Copeland, "Efficiency wages in a Ricardian model of international trade," JIE 1989.  
 C. Davidson, L. Martin, and S. Matusz, "Trade and search-generated unemployment," JIE 1999.