An Introduction to International Trade Theory

PhD course, University College Dublin,
January- May, 2010

James R. Markusen
University College Dublin
University of Colorado, Boulder

This course will focus on the theory of international trade, with some reference to empirical evidence. I will not present a highly technical course, but aim for a balance between a comprehensive presentation of the breadth of existing topics and more formal approaches to central questions. It is my goal that students will come away from the course with the ability to successfully tackle professional journal articles with an understanding of the place and the importance of the topic in the larger scheme of things.

However, a minimum competence level of MA-level microeconomics is required for the course. You should not be in the course if you have not done well in MA level micro, PhD level preferred.

The course will be textbook-based. The text is a new book in preparation by myself and Professor Keith Maskus to be published by Wiley-Blackwell. The good news is that I will give you the draft manuscript for free. But please note the it is copyrighted, and no copying or emailing on of the manuscript is permitted. Please comply.

Material and References


Feenstra, *Advanced International Trade*, Princeton University Press, 2003. This is a graduate level book. It is primarily directed at the PhD level, but much is suitable for the MA students with strong microeconomics. It is an excellent source for surveys of empirical research.

Detailed class notes, prepared by myself, are available for my PhD course. These are available on my website:

http://spot.colorado.edu/~markusen

click on “teaching” on the left menu

look on the left under “PhD notes”

Class assessment will be by final exam and several problem sets. I may give different problem sets for MA and PhD students.

For details about my own interests and research, see http://spot.colorado.edu/~markusen
Course Outline: Organized by Topic into 12 Lectures. One lecture does not always correspond to one day (course presented over 12 weeks)

I will be going very fast through some basic material. So it is very important that all, students, and MA students in particular are well prepared before a lecture. Read through the relevant material in Markusen, et.al.

**Part I: Tools of General-Equilibrium Analysis**

Lecture 1: Review of Production Theory

1. Production: Functions, Set, Frontier: Transformation Function

3. Production Frontier (2 good case)
   (A) Position
       Factor endowments
       Real factor productivities (technology)
       Scale economies
   (B) Slope
       Relative factor productivities
       Relative endowments
       Scale Economies
   (C) Curvature
       Factor intensity effects
       Scale economies

4. Competitive Equilibrium

5. The first theorem of welfare economics and its implications
Lecture 1: Review of Consumer Theory, General Equilibrium

1. Equilibrium for the single consumer
   Utility function
   Budget Constraint
   Equilibrium

2. Market Demand
   The aggregation problem
   Identical homothetic utility
   Quasi-homotheticity
   Positive, normative interpretations of aggregate indifference curves

3. Equilibrium in the closed economy
   Equilibrium as the solution to an optimization problem
   Equilibrium as the solution to a system of inequalities

Lecture 1: Duality, Excess Demand and Offer Functions

1. The national product or revenue function

2. The expenditure function

3. Excess demand functions

4. Offer functions

Lecture 2: Gains from Trade

1. The gains from trade theorem - free trade versus no trade (autarky)

2. Restricted/subsidized trade versus autarky

3. Free trade versus restricted trade

4. Failures of the gains from trade theorem
   "non-convexities"
   "non-tangencies"

5. Distribution of gains between countries
   Equilibrium prices relative to autarky prices

6. Distribution of gains between individuals within countries
   Identical endowments, different preferences
   Identical preferences, different endowments
Part II: Bases for Trade

The No-Trade Model

(A) Identical production functions in all countries  
(B) Same relative factor endowments in all countries  
(C) Constant returns to scale  
(D) Identical, Homogeneous preferences in all countries  
(E) No Distortions (imperfect competition, externalities, taxes).

Lecture 3: Ricardian Models - Technology as a basis for Trade

1. A one-factor model of technology differences
2. Comparative versus absolute advantage  
   Existence of trading opportunities depends only on comparative Advantage.
3. Production frontier, closed-economy equilibrium
4. Comparative advantage and autarky price ratios  
   Pattern of comparative advantage reflected in autarky prices
5. Excess demand and international equilibrium  
   Constructing the excess demand curve  
   Specialization
6. The distribution of gains between countries  
   Big versus small countries  
   More productive versus less productive countries
7. Real wage comparisons across countries  
   The role of equilibrium prices  
   The role of absolute advantage

Lecture 3-4: Heckscher-Ohlin Theory

1. Basic assumptions
2. The production set  
   Define factor intensities  
   The Edgeworth Box
Lecture 4: The Specific-Factors Model (Ronald Jones), Generalizations of Factor-Proportions Models

1. Production functions, convexity of the production set.
2. The direction of trade - modification of the Heckscher-Ohlin theorem.
3. Factor endowments and outputs - modification of the Rybczynski theorem.
4. Commodity prices and factor prices - modification of the FPE and Stolper-Samuelson theorems.

Lecture 5: Government Policies and Distortions as Determinants of Trade

1. Distinguishing among producer, consumer, and world prices.
2. Autarky equilibrium, where does tax revenue go?
3. Small economy facing fixed world prices: distortions as a basis for (bad) trade.
4. Two identical economies, except one has a distortion.
5. Gains-from-trade analysis: the expansion condition revisited.
6. Factor market distortions.

Lecture 5: External Economies of Scale

1. Firm and industry production functions
2. Non-tangency and non-convexity
3. Country size as a determinant of trade
4. Possible multiple equilibria and low-level traps
5. International external economies
6. A note on factor prices

Lecture 5-6: Oligopoly Models with Homogenous Goods
1. Trade between identical countries in a Cournot duopoly
2. The “linear” model: linear demand and constant marginal cost
3. Cournot duopoly in the linear model
4. A free-entry version of the Cournot linear model
5. Positive trade costs: the “reciprocal dumping” model with segmented markets
6. The “home-market effect”: per capital welfare difference in the presence of trade costs and country size differences
7. Notes on segmented versus integrated markets

Lecture 6-7: Monopolistic - Competition
1. Dixit-Stiglitz preferences - “love of variety”
   The basic Krugman model - variable markups
   Fixed markups (“large-group” monopolistic competition)
2. Differentiated intermediate inputs and the “division of labor”
   Ethier’s model
   Extensions - traded and non-traded intermediate inputs
3. Differentiated goods and the volume of trade - zero trade costs
   The Helpman-Krugman FPE analysis
   Intra-industry and inter-industry trade volumes
   Extensions - non-homothetic demand
4. Transport costs and home-market effects
   Differences in country size, real wages and Linder effects
   Two-sector models
Factor-price and agglomeration effects

5. Lancaster’s “location” model - “ideal variety”

Lecture 7-8: Trade Cost, Demand

1. Trade costs
2. Different tastes between countries as a determinant of demand
3. Differences in per-capita income as a determinant of trade
4. The Linder hypothesis, product cycles, and extensions
5. The gravity equation, intra-industry trade indices

Lecture 9: Trade in Factors

1. A gains-from-trade theorem
2. The Jones-Coelho-Easton two-factor, one-good model.
3. The Heckscher-Ohlin Model: trade in goods and factors as substitutes
   Zero trade costs, specialization
   Positive trade costs
4. Possible different results in the three-good specific-factors model
5. Trade in goods and factors as complements
   Countries differ in technology
   Product market distortions
   Increasing returns.
6. Home market effects in models with scale economies and transport costs.

Lecture 10: Multinational Firms

1. Review of empirical evidence
2. Dunning's OLI, joint inputs, firm versus plant-level scale economies
3. A model with endogenous multinationals
4. Pattern of trade in goods and services
5. Motives for internalization
6. A model of internalization

Part III: Trade Policy

Lecture 11: Tariffs
1. Tariffs, prices and welfare in a small economy
2. Equivalence of an import tariff and export tax
3. Tariff = consumption tax + production subsidy
4. Export subsidies
5. Existing distortions, second best, “infant industry argument”
6. Terms of trade and the optimal tariff
7. Tariffs and retaliation, trade wars
8. Effective protection, internal income redistribution

Lecture 11: Quotas and Other Barriers
1. Methods of instituting a quota
   auctions
domestic give-away
VER
red tape, DUPs
2. Comparison of methods
3. Non-equivalence of tariffs and quotas
distributional effects within countries and between countries
retaliation, Nash equilibria in tariffs versus quotas
foreign monopolist supplying the import good
domestic monopoly producer of the import-competing good.
economy is growing
fluctuations, “shocks”
Lecture 12: Strategic Trade Policy

1. Definition: Trade policy with increasing returns and imperfect competition
   Domestic distortions, profit shifting

2. Cournot competition - production subsidy
   One firm in each country
   Firm numbers fixed, but > 1
   Add domestic consumption
   Free entry
   Foreign ownership

3. Bertrand competition

4. Import protection as export promotion

5. Voluntary export restraints, facilitating collusion

6. Monopolistic competition

7. Complementarity of domestic and imported intermediate inputs

8. Segmented versus integrated markets

Extras

Lecture 13: Preferential Trade Areas

1. Inherent difficulties of second-best problems

2. Traditional approach: trade creation and diversion

3. Problems with traditional approach

4. Kemp-Wan theorem

Lecture 14: Political Economy

1. Basic postulates

2. Median-voter model

3. Participation costs, free riding, logrolling
4. Status-quo bias

5. Multi-issue bargaining and exchange of market access

6. Mayer’s median voter model

7. Grossman-Helpman protection for sale

Reading List

Below is the list or chapters in Feenstra and in Markusen et. al. I have also included “classic”
articles for each topic, but I will not expect students to master these in such a short course.

Lecture 1:
Markusen and Maskus (MM), Chapters 2-5
Feenstra, Chapter 1, 3
Dixit and Norman, Chapters 1-3

Lecture 2:
Markusen, Melvin, Kaempfer, and Maskus, Chapter 5
Feenstra, Chapter 6
Corden, "The Normative Theory of International Trade", in Jones and Kenen.
Dixit and Norman, Chapter 3, parts 2-4.

Lecture 3:
MM, Chapters 6, 7, 8
Feenstra, Chapter 1
Jones and Neary, "The Positive Theory of International Trade", in Jones and Kenen.
Dornbusch, Fischer, and Samuelson, "Comparative Advantage, Trade, and Payments in a

Lecture 4:
MM, Chapters 8, 9
Feenstra, Chapters 1-3.
Dixit and Norman, Chapter 4.
Jones, "The Structure of Simple General-Equilibrium Models," Journal of
Jones, "A Three Factor Model in Trade, Theory and History", in Bhagwati et. al.
(Editors), Trade, Balance of Payments and Growth, North Holland, 1971.
Mayer, "Short-Run and Long-Run Equilibrium for a Small Open Economy," Journal
of Political Economy, 1974, 955-968.
Ethier, "Higher Dimensional Trade Theory," in Jones and Kenen.
Lecture 5:
MM, Chapter 10, 11

Lecture 6:
MMKM, Chapter 11, 12.
Feenstra, Chapter 5.

Lecture 7:
MM, Chapter 12, 13.
Feenstra, Chapter 5.

Lecture 8:
MM, Chapter 13, 14

Lecture 9:
MM Chapter 15, 16
Feenstra, Chapter 4.

Lecture 10:
MMKM, Chapter 16
Feenstra, Chapter 10

Lecture 11:
MM, Chapter 18, 19
Feenstra, Chapter 7
Dixit and Norman, Chapters 4, 5.
Corden, "The Normative Theory", in Jones and Kenen, Chapter 2.

Lecture 12:
MM, Chapter 19, 20.
Feenstra, Chapter 8.
Corden, "The Normative Theory", in Jones and Kenen, Chapter 2.
Harris, "Why Voluntary Export Restraints are Voluntary", Canadian Journal of Economics, 1985, 799-809.

Added Topics if time permits:
Political economy
Preferential trade areas
OTHER REFERENCES


