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INTERNATIONAL ECONOMICS: Analysis of Globalization and Policy

John McLaren, University of Virginia

This is a textbook for undergraduate, MBA, and Master's of Public Administration courses in international economics, appropriate to either a one-semester course in international economics with two or three weeks of macroeconomics topics, or a course specialized in international trade. This text covers all of the conventional theory that undergraduates are expected to learn in a course of that sort, but presented in a radically different way. A standard course in international trade will present a sequence of models – the Ricardian model, specific factors, Heckscher-Ohlin, and a few others – following up each theoretical model with an application to one or more policy questions, or discussion of empirical evidence. This time-tested method works fairly well, particularly with highly motivated students, but it suffers from two important limitations that I have noticed after long experience.

(i) *The absorption of the theory* suffers from a lack of enthusiasm, because for most students it is difficult to sustain motivation through the many technical details required to understand the models well, before the *usefulness* of the model has been established in the mind of the student.

(ii) *The application of the theory* suffers because the student tends to think of 'theory' and 'policy' as two different topics, which refer to each other but do not depend on each other in any crucial way. Often, the real-world applications are presented in text boxes, which signal to the students that they are not part of the core material, and are unlikely to be on the exam. I have found that in practice, students tend to suffer through the theory, then perk up somewhat during discussion of policy controversies, but generally fail to make a strong connection between the two. When, at the end of my course, I have assigned a short written assignment in which students are required to analyze a real-world trade policy, I have found that even students who have understood the theoretical models reasonably well simply do not use them in analyzing real-world problems. Put differently, *using* economic theory is a different skill from merely *understanding* economic theory, and our economics courses ought to aim to teach this skill.

What I have used in this text is what I call the *inversion technique*: I introduce a real-world policy problem at the *beginning* of each topic, and spend some time presenting the key facts and background, showing the students why the problem is important, achieving a certain level of emotional investment in the policy question. I then present one or more key arguments that are made in answering the question by advocates for one answer or another, and *then*, in the process of elucidating the particular argument I want to highlight, I present a theoretical model that is *necessary to understand that argument*. In this way, the theory model is not separate from an inquiry into the real world, but it presented at the outset as a *tool* for understanding the world, and the students appreciate it as a possible solution to an important real-world question.

Since I began presenting my course at the University of Virginia in this way, I have found a sharp improvement in students' engagement with the material (and my own enjoyment of it). Each major theoretical idea can be motivated by a vivid problem from the real world. For example, I introduce the Ricardian model not as a theory of why nations trade in general, but as a part of the answer to the question: "Should Nigeria pursue self-sufficiency in food?" The government of Nigeria has indeed had food self-sufficiency as an explicit goal for many years, and in fact for several years in the 1980's banned rice imports as a step to achieving it. There are some arguments in favor of this sort of policy in some cases, which I note, but economists overwhelmingly reject this as helpful policy, because it denies the country the benefits of specialization on the basis of comparative advantage. The Ricardian model makes that line of argument as clear as it can be, including the observation, surprising to many non-economists, that a country may well boost its food consumption by abandoning food self-sufficiency, because of the higher incomes that result from the gains from trade. In this way, the Ricardian model becomes, unfortunately but literally, a matter of life and death, and vastly more interesting to students than if it was a mere abstract exercise.

I wish to stress that although the manner of presentation is unusual, and the table of contents shows a series of real-world policy problems rather than theoretical topics, the textbook contains *the full set of theoretical models* contained in any standard trade textbook, presented in *full analytical rigor*. As a result, one might well interpret this volume as a conventional trade theory textbook in disguise, although I hope its contribution will be greater than that. I have laid out in the accompanying two tables which model is covered in each chapter. The 'Theory guide' shows a brief list of the main theory ideas, with the chapter location of each one, and the 'Chapter list with detailed guide to theory contents' shows what the theory content is in each chapter.

The technical level is moderate. The text does not use calculus, but many models involve the simultaneous solution of two linear equations with two unknowns and there are a lot of fairly elaborate diagrams analyzed with a lot of geometry. The analysis of the models is detailed and demanding. I have found that students' willingness to push through detailed equilibrium analysis is enhanced by building each chapter around a motivating example. In that sense, the factual material beginning each chapter and the theoretical elaboration that makes up the bulk of the chapter should be seen as complements, not substitutes.

A few additional features are worth mentioning.

(i) *Empirical assignments*. Students can learn a great deal about globalization in practice by working out simple exercises with spreadsheets on actual data. I have found that students appreciate this, both because of what they learn about globalization and because it sharpens some quantitative skills that are useful in every walk of life. For example, for Chapter 1, there is a simple spreadsheet of data from the World Bank on trade volumes, GDP's, and populations by country and by year for a broad sample of countries. Problems at the end of that chapter ask students to identify trends in openness over time, and to identify cross-country patterns, such as whether richer or larger countries tend to be more or less open than poorer or smaller ones. For the material on intra-industry trade for Chapter 3, a chapter problem asks students to pick a country and compute the fraction of US trade with that country that is intra-industry in nature rather than inter-industry, and to speculate on the reasons it is high if it is high, and vice versa if it is low. This computation is easy to do with a spreadsheet with the formula given in the chapter.

(ii) *Theory exercises on spreadsheets*. For some problems, where a full mathematical analysis involves heavy algebra, a good bit of the mathematical insight can be obtained by

manipulation of a spreadsheet. I have taken some inspiration on this from the work of Soumaya Tohamy and J. Wilson Mixon, Jr. of Berry College on the pedagogical use of spreadsheets for trade theory. Student homework problems on optimal tariffs in Chapter 7 and productivity effects of a Melitz-type model in Chapter 3 are set up in this way.

(iii) *The family tree of trade models.* Real world trade is complicated; trade between the US and Canada does not in any way resemble trade between the US and Nigeria; the effect of a voluntary export restraint in a competitive industry such as the apparel sector is very different from the effect in an oligopolistic industry such as the auto sector. For this reason, we need a portfolio of very different models to analyze the world. Students can find the variety of models overwhelming, and so I have organized them in a diagram that I call ‘The family tree of trade models.’ This is a single image that summarizes all of the theory in the course at a glance, and as a result it can serve as a map to help us navigate the course material. It grows out of three branches, each representing one of the three main reasons for international trade (comparative advantage, increasing returns to scale, and imperfect competition), as developed in the insightful and, I believe, under-appreciated textbook by Wilfred Ethier. I show the tree at the beginning of the course, pointing out its three main branches, and at the end of each topic in class I show it again to indicate which branch of the tree we have now learned. At the end of each chapter in the book, the portion of the tree that has been seen so far is reproduced under the heading ‘Where we Are.’ In that way, students always know how the different pieces of the course fit together.

(iv) *Current theoretical topics.* The book incorporates a simplified account of the Melitz model; both the Feenstra-Hanson and the Grossman-Rossi-Hansberg models of offshoring; the Kala Krishna theory of VER’s as facilitating practices; and very simplified analytical equilibrium treatments of the ideas in theoretical work on the WTO by Bagwell and Staiger and on pollution by Copeland and Taylor. I do not believe that this collection of topics is treated in very many texts at this level.

Theory guide: The location of key pieces of theory by chapter.

Ricardian model: Chapter 2.

Specific-factors model: Chapter 5.

Heckscher-Ohlin model: Chapter 6.

Oligopoly models: Chapter 4.

Increasing-returns-to-scale models – internal: Chapter 3.

Increasing-returns-to-scale models – external: Chapter 9.

Monopolistic competition: Chapter 3.

Tariffs and quotas with perfect competition: Chapter 7.

Tariffs and quotas under oligopoly: Chapter 10.

Infant-industry protection: Chapter 9.

Trade creation and trade diversion: Chapter 15.

Intertemporal trade and unbalanced trade: Chapter 16.

Exchange-rate determination: Chapter 17.

Chapter list with detailed guide to theory contents.

<i>I. Engines of globalization.</i>	
1. A second surge of globalization.	Shows the key facts of rising globalization in historical context, and introduces the three main reasons for trade, hence the idea behind each of the three main trade theories covered in the next three chapters.
2. Should Nigeria strive for food self-sufficiency?	Introduces the Ricardian model, and comparative advantage as a reason for trade.
3. Why do Americans get their Impalas from Canada?	Introduces increasing returns to scale as a source of trade. Export-vs-FDI model of serving a foreign market. Monopolistic competition model of trade. Intuitive treatment of Melitz model.
4. Kodak and Fuji: Is world trade rigged in favor of large corporations?	Introduces oligopolistic models of trade, showing how oligopoly in and of itself can be a reason for trade and how oligopolists themselves can be the losers, with consumers the beneficiaries. Baldwin-Krugman model of reciprocal dumping. Cournot and Bertrand models.
<i>II. Politics and policy in the world economy.</i>	
5. Why did the North want a tariff, and why did the South call it an abomination?	Introduces specific-factors models.
6. Is free trade a rip-off for American workers?	Introduces the Heckscher-Ohlin model as well as empirical evidence on the trade-and-wages debate.
7. Why doesn't our government want us to import sugar?	Introduces basic tariff and quota analysis in comparative-advantage models, partial and general equilibrium. Terms-of-trade versus interest-group motivations for trade policy. Extension to VER's.

8. Who Are the WTO, and What Do They Have Against Dolphins?	The prisoner's dilemma nature of protectionism, and the rationale for multilateral cooperation. The problem of disguised protectionism and the intersection between trade and environmental policy.
9. Should Third-World Governments use tariffs to jump-start growth?	Tariffs in an economy with external increasing returns; infant-industry protection.
10. Did Ronald Reagan get punked by Japanese automakers?	Shows how VER's can have radically different effects in an oligopolistic model; examines evidence that Japanese firms benefited from VER's of the 1980's, and shows how this can arise in a Bertrand oligopoly. (Simplified version of Kala Krishna's theory of VER's as 'facilitating practices'.) Extension to strategic trade policy more generally: export subsidies and import tariffs under oligopoly.
III. Current controversies.	
11. Should the iPod be made by American workers?	Feenstra-Hanson and Grossman-Rossi-Hansberg models of offshoring; look at empirical evidence.
12. Should we build a border fence?	Shows how the models of Chapters 5 and 6 can clarify the different arguments regarding immigration; look at empirical evidence.
13. Trade and the environment: Is globalization green?	Reviews 'pollution haven' argument that globalization harms the environment versus Antweiler-Copeland-Taylor Heckscher-Ohlin-based argument that globalization is good for the environment. Adds pollution and pollution regulation to model of Chapter 6.

14. Sweatshops and child labor: Globalization and human rights.	Adds Basu-Van-type child labor to the model of Chapter 5 to understand the approach and findings of Edmonds, Pavcnik, and Topolova; addresses other questions in globalization and human rights less formally.
15. Is NAFTA a betrayal of the poor, or a path to prosperity?	Trade diversion, trade creation, and evidence on the effects of the NAFTA on households in the US and in Mexico. Draws on models from Chapters 6, 7 and 11.
16. Is the trade deficit a time bomb?	Intertemporal trade, and the reasons trade may be unbalanced. Critical look at current views on US trade with China.
17. Trade and exchange rates: Is the Renminbi the culprit?	Equilibrium model of exchange rates based on infinite-horizon cash-in-advance model. Critically evaluates claim that China achieves an unfair advantage through currency manipulation.

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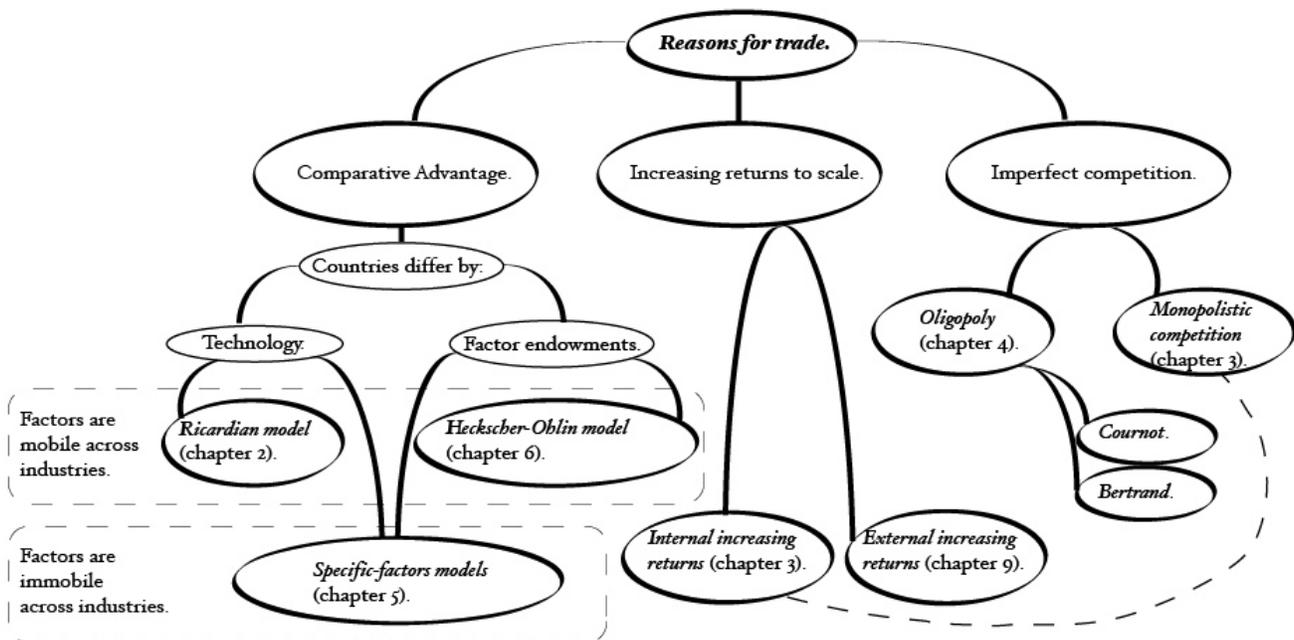
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The Family Tree of Trade Models.