

Lecture 3 (Alex McCalla – University of California, Davis) Imperfect Competition and International Agricultural Trade

Lecture Topics

I will take a historical approach beginning with neoclassical Heckscher-Ohlin trade theory which links neoclassical micro-theory with the Theorem of Comparative Advantage(CV), which Samuelson called “**the most important proposition in economics- it is true and nontrivial**”. The beauty of the pure theory of international trade is that if national markets are perfectly competitive and trade is free, competitive markets nationally and globally produce a global maximum where all countries are potentially better off than in a world with less than free trade.

The beauty of the free trade model dominated the literature for a long time with only two exceptions discussed-first monopoly where a large country’s potential impacts on the Terms of Trade leads to the “optimal export tax or import duty” and second the more dubious “Infant Industry” exception.

The notions of Monopolistic Competition (Chamberlin, 1933) and Imperfect Competition (Robinson,1933) led some to explore trade under imperfect competition. More recently work initiated by Krugman, and Brander and Spencer led to the so-called “New Theory of International Trade” in the late 70’s and early 1980’s which better explained intra-industry trade and provided a theoretical rationale for strategic government intervention.

The application of these developments to agriculture came slowly. The farm sector was often used as the model of a perfectly competitive industry-- millions of small price-taking farmers, and on the food consumption side-- millions of small consumers. It looked like the agriculture/food industry ideally met competitive standards. But there were two major problems. First most governments intervene in agriculture- taxing it in poor countries and subsidizing it in rich countries-which requires managing the border with things like variable levy’s, quotas etc to prevent world events from interfering with domestic objectives. Thus the country is the unit of analysis, not the small firm, and some countries are large producers and/or large traders. The second problem is that while the primary producers and final consumers may be atomistic, it is quite possible, even likely, that intermediary firms in the collection, storage, processing, distribution, wholesale and retail sectors may be few and large.

So while oligopoly/oligopsony structural assumptions in models may be a better way to describe many agricultural markets, the challenge is to determine how large countries

and/or large firms behave (interact) within the concentrated structure to produce pricing outcomes.

Topics

1. Review Pure Theory of International Trade.
2. Exceptions Big Country Monopoly Power and Cartels, & Infant Industry
3. Agriculture was frequent model of pure competition but International Ag Markets may not be competitive- Big Countries and Big Multinational Firms.
4. Cartels, Trusts and International Commodity Agreements -Sugar, rubber and wheat;
5. Early International Agricultural Market Studies at Stanford Food Research Institute (FRI) with special focus on wheat.
6. Early Imperfectly Competitive model of world Grain Markets –Duopoly Model of World Wheat Market Pricing- Governments and/or State traders as wielders of market power;
7. Firms as power players; firms and governments playing together;
8. Strategic trade theory, game theory and agriculture- coffee, rice,
9. Dynamics and Empirical modelling to Evaluate Structure- corn, rice, bananas.

Reading: in order of priority for reading

Reimer, J. J. and K. Stiegert (2006). "Imperfect Competition and Strategic Trade Theory: Evidence for International Food and Agricultural Markets." *J. of Ag. & Food Industrial Organization*, 4:1-25.

Karp, L. S. and J. M. Perloff (2002). "A Synthesis of Agricultural Trade Economics." Chpt. 33 in B. L Gardner and G. C. Rausser, eds. *Handbook of Agricultural Economics Vol 2B*. Amsterdam: North Holland-Elsevier. 1945-1998.

McCalla, A. F. (1981). "Structural and Market Power Considerations in Imperfect Agricultural Markets" Chpt.2 in A. F. McCalla and T.E. Josling, eds. *Imperfect Markets in Agricultural Trade*. Totowa, N. J: Allanheld, Osmun &Co. 9-28.

Recent Work.

Anania, G. and M Scoppola (2014). "Modelling Trade Policies Under Alternative Market Structures" *Journal of Policy Modelling*, 92(2):424-446.

Dhamodharam, M., S. Devadoss and J. Luckstead (2016). "Imperfect Competition, Trade Policies, and Technical Change in the Orange Juice Market." *J. of Agricultural and Resource Economics*. 41:189-203.

A Sampling of References: in no particular order

Caves, R. (1960). *Trade and Economic Structure: Models and Methods*. Cambridge: Harvard Univ. Press.

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

Brander, J., and B. Spencer (1985) "Export Subsidies and International Market Share Rivalry", *J. of International Economics*. 18:83-100.

Helpman, E., and P. R. Krugman (1989). *Trade Policy and Market Structure*. Cambridge: MIT Press.

Josling, T., K. Anderson, A. Schmitz and S. Tangermann(2010). "Understanding Trade in Agricultural Products: One Hundred Years of Contributions by Agricultural Economists." *American Journal of Agricultural Economics*. 92:424-446.

McCalla, A. F. (1966). "A Duopoly Model of World Wheat Pricing." *Journal of Farm Economics*. 48:711-727.

Thursby, M. C. and J. G. Thursby (1990). "Strategic Trade Theory and Agricultural Markets: An Application to Canadian and U. S. Wheat Exports to Japan." Chpt. 4 in C. A. Carter, A. F. McCalla, and J. A. Sharples, eds. *Imperfect Competition and Political Economy: The New Trade Theory in Agricultural Trade Research*. Boulder: Westview Press.

Karp L. S. and J. M. Perloff (1993). "Dynamic Oligopoly in the Rice Export Market." *Review of Economics and Statistics*. 71:462-470.

Kolstad, C. D., and A. E. Burris. (1986). "Imperfectly Competitive Equilibria in International Commodity Markets. *American Journal of Agricultural Economics*.68:27-36