

ECONOMIC PERSPECTIVES ON COMPETITIVENESS UNDER WTO, NAFTA, AND FTAA

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INTRODUCTION

Sporleder and Martin have provided a number of very useful perspectives on competitiveness under the World Trade Organization (WTO), North American Free Trade Agreement (NAFTA), and the Free Trade of the Americas (FTAA). I will focus my comments on three of the points they raise in their paper. These points are:

1. trade agreements have had some very powerful effects on certain segments of the agricultural sector in Mexico, Canada, and the United States;
2. there are important interactions among technological change, intellectual property rights (IPRs) and trade that need to be considered when examining trade agreement effects; and
3. competition policy and regulatory schemes that encourage contestability will be increasingly important as agriculture is industrialized.

EFFECTS OF TRADE AGREEMENTS

The paper provides three examples—wine, tomato processing, and western Canadian agriculture—of how trade agreements induced substantial structural adjustments in certain segments of Canada’s agricultural industry. I would like to expand on the changes occurring in the grains industry of Western Canada to drive home the point that trade agreements can have some fairly major impacts.

Although the causal link is not always clear and there are many contributing factors, both the Canada-United States Free Trade Agreement (CUSTA) and the WTO have either led to or have been part of the reason for the following changes in the Western Canadian grains industry:

- opening of the Canada-United States border to trade in grain, which in turn has led to cross-border sales and trade disputes between Canada and the United States;
- the removal of the *Western Grain Transportation Act* (WGTA) and the partial deregulation of the rail industry (Vercammen, 1996);

- calls for new pricing and regulatory structures for the rail industry (Fulton and Gray);
- pressure for changes to the Canadian Wheat Board;
- consolidation of the grain handling system;
- an expansion of the hog industry using a new production technology;
- mergers in the processing (milling and malting) and grain handling sectors, as well as direct foreign investment by multinational firms (Adams and Young, Bushena and Gray); and
- changes in the crop mix.

The above list of changes is instructive in that it includes aspects such as changes in crop mixes that are traditionally modeled as being affected by trade agreements. The list also includes aspects—such as mergers, consolidation, and the demand for new regulatory structures—that are not usually viewed as being linked to trade agreements. Clearly, however, trade agreements have an effect not only on prices and quantities in an industry, but also on the organizational and institutional structure of the industry. Understanding the linkage between trade agreements and the organizational and institutional aspects in something to which more attention needs to be focused.

AGRICULTURAL INNOVATIONS AND IPRS

As Sporleder and Martin point out in their paper, technological change has been a key factor in agricultural development. Although there have been exceptions, technical developments have historically been financed by publicly-funded research. This situation, however, is changing. Currently, a sizable and increasing proportion of agricultural research and development (R&D) is being done by private companies (Moschini and Lapan, 1997).

Private firm research differs from publicly-funded research in that it is protected by various forms of IPRs. These IPRs—whether they be patents, licensing agreements, or trade secrets—confer some monopoly rights to the discoverer of an innovation (Moschini and Lapan). IPRs also result in economies of scale to the firms that hold them (Fulton, 1997). As a consequence, industries where IPRs play an important role cannot be viewed as being perfectly competitive. Instead, these industries must be understood as oligopolies and the firms in these industries must be viewed as having oligopoly power (Fulton, Moschini and Lapan).

One of the implications of private firms undertaking an increasing amount of agricultural R&D is that agricultural innovations can no longer be viewed as exogenous to agriculture. Instead, R&D expenditures and the innovations they spawn are part of a firm's strategic decisions and are linked with the other activities the firm is

undertaking. As Moschini and Lapan show, this endogeneity has important implications for determining the gains, and the distributions of the gains, from agricultural R&D.

In addition, innovation activity and IPRs form the basis for the formation and the operation of multinational enterprises, vertical integration, strategic alliances, and cooperative R&D. As Caves points out, the most fruitful concept for explaining multinational enterprises and vertical integration is a notion of proprietary assets. Proprietary assets—or intangible assets—are nonrival goods that have a high degree of excludability. Examples of these assets include knowledge of how to produce a product more cheaply than other firms or special skills in designing products (Caves, 1996).

As a result of being nonrival, proprietary assets can be used in different locations at the same time. However, attempts to make these assets available to other parties are often prone to market failures such as opportunistic behaviour. As a consequence, firms with proprietary assets often find it most advantageous to establish new operations in different locales to obtain the benefit of these assets. The empirical evidence supports this idea, with foreign investment being strongly influenced by investments in proprietary assets.

Proprietary assets also play a similar role in the decision to vertically integrate, to undertake strategic alliances, or to form cooperative R&D enterprises (Katz, 1986; Caves; Fulton). For instance, in the grains industry, intellectual property and intangible assets are likely to result in pressure on chemical and seed companies to control marketing and distribution, and in pressure on marketing and distribution companies to control seed and chemical products.

The structure of agriculture is also changing because of the nature of the technological innovations that are being undertaken. While all innovation is directed at increasing productivity, many of the innovations also increase the degree of control that we have over biological processes. This greater control results in easier monitoring of the agricultural production process, which in turn has implications for the way the agricultural system is structured (see Hobbs and Kerr in this volume). More specifically, easier and less costly monitoring means the transactions costs associated with contracting (and other forms of vertical integration and vertical coordination) are likely to be reduced, making it more likely that this form of organization will emerge as the most efficient.

In summary, the changing structure of agriculture is influenced by a complex nexus of forces. The trend towards greater private firm funding of agricultural R&D—which will result in additional proprietary assets for the firm—is likely to result in greater foreign investment, vertical integration, and strategic alliances, as well as greater industry concentration. These changes will be aided by the nature of agricultural innovations, by trade agreements, and by the domestic deregulation that is inexorably linked to trade agreements. Many of these developments have a

common origin. For instance, the reduced role of government in funding agricultural R&D, the signing of international trade agreements, and the deregulation of domestic industries are all part of governments' response to fiscal pressures and globalization.

COMPETITION POLICY AND CONTESTABILITY

For at least two reasons, as trade agreements increase in importance, so does competition policy. The first is that competition policy is important in ensuring that trade agreements are not circumvented and that certain firm (e.g., domestic firm) are not given special treatment. Robertson et al. (1997) provide an overview of this aspect of competition policy and trade liberalization in agriculture.

Competition policy is important for a second reason, namely to ensure that the increasing concentration discussed above does not lead to non-competitive activities. The concern over non-competitive activities may be further increased because of the deregulation that goes hand-in-hand with trade agreements.

Although concerns about concentration and non-competitive activities have long been important in agriculture, there are indications that the nature of concentration will be different than in the past. Changes to the way supply chains are organized suggest a greater level of vertical integration and coordination than has been the case in the past (Hobbs and Kerr, 1998). One possible scenario is the presence in a few years of an oligopoly of supply chain firms, with each supply chain firm (or combination of firms) dealing with most of the supply chain from input supply to final processing (and perhaps even retailing). How will these supply chain firms compete? What are the relevant performance issues that need to be examined in such a system? A great deal of research is required to address these questions.

Finally, an observation from other industries such as telecommunications and electrical power. Deregulation in these industries has taken the form of creating contestable markets, markets in which the costs of entry and exit have been substantially reduced. The creation of these contestable markets can be viewed as a supplement to competition policy. The idea of regulation as promoting entry, rather than of setting prices, needs to be considered for certain segments of agriculture where entry is problematic. One example of a segment of agriculture where entry is of a concern is rail transportation (Fulton and Gray).

REFERENCES

- Adams, Gary and Linda M. Young. 1998. "Structural Developments in the U.S. Grains Subsector." In Loyns, R.M.A. et al. (eds). *Proceedings of the Fourth Agricultural and Food Policy Systems Information Workshop. Economic Harmonization in the Canadian/U.S./Mexican Grain-Livestock Subsector.*

- Bushena, David and Richard Gray. Forthcoming "The Changing Structures in the Barley Production, Barley Malting, and Brewing Industries in North America," *Policy Issues Paper*, The Trade Research Center, Montana State University, Bozeman, Montana.
- Caves, Richard E. 1996. *Multinational Enterprise and Economic Analysis*. Cambridge University Press. Cambridge.
- Fulton, Murray. 1997. *The Economics of Intellectual Property Rights: Discussion*. Invited Discussion Paper for the CAEFMS/AAEA Joint Meetings, Toronto, July 27-30.
- Fulton, Murray and Richard Gary. Forthcoming "Railways and Competition," *Policy Issues Paper*, The Trade Research Center, Montana State University, Bozeman, Montana.
- Hobbs, Jill E. and William A. Kerr. 1998. "Structural Developments in the Canadian Livestock Subsector: Strategic Positioning Within the Continental Market." In Loyns, R.M.A. et al. (eds.). Proceedings of the Fourth Agricultural and Food Policy Systems Information Workshop. *Economic Harmonization in the Canadian/U.S./Mexican Grain-Livestock Subsector*.
- Katz, Michael L. 1986. "An analysis of cooperative research and development." *Rand Journal of Economics* 17(4): 528-542.
- Moschini, Giancarlo and Harvey Lapan. 1997. "Intellectual Property Rights and the Welfare Effects of Agricultural R&D." *American Journal of Agricultural Economics* 79(4): (page numbers available when issue published).
- Robertson, Gerald, W.T. Stanbury, Gernot Kofler, and Joseph Montelro. 1997. "Competition Policy, Trade Liberalization and Agriculture." In Loyns, R.M.A. et al. (eds.). Proceedings of the Third Agricultural and Food Policy Systems Information Workshop, Tucson, Arizona. *Harmonization/Convergence/Compatibility in Agriculture and Agri-Food Policy: Canada, United States and Mexico*, pp. 119-154.
- Vercammen, J. 1996. *Description of Regulatory Change*. Vol. Module B-1. The Economics of Western Grain Transportation and Handling. Edited by J. Vercammen, M. Fulton, and R. Gray. Saskatoon: Van Vliet Research Endowment.