North American Agricultural Market Integration and Its Impact on the Food and Fiber System. By Thomas L. Vollrath, Market and Trade Economics Division, Economic Research Service, U.S. Department of Agriculture. Agriculture Information Bulletin No. 784.

Abstract

Economic change and market dynamics have fundamentally altered the structure and performance of agricultural markets in the United States, Canada, and Mexico within the last 25 years. Many factors have helped shape the current North American food and fiber system, including technological change, domestic farm policies, international trade agreements, and the economic forces of supply and demand. Ratification of NAFTA, for example, helped integrate the North American market, sparking a surge in trade and investment among the United States, Canada, and Mexico. In recent years, efforts to further integrate the continental market seem to have slowed. Broadening the scope of NAFTA to include institutional reforms that lead to a more unified system of commercial law, the establishment of common antitrust and regulatory procedures, harmonization of product standards, and increased coordination of domestic farm, market, and macroeconomic policies would deepen market integration and enhance market efficiency and growth within North America.

Keywords: agriculture, market integration, market segmentation, law of one price, price transmission elasticities, exchange-rate pass-through, market efficiency, bilateral trade intensity, regional trade agreements, NAFTA, CUSTA, trade policy, WTO, GATT.

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Executive Summary

Economic change and market dynamics have fundamentally altered the structure and performance of agricultural markets in the United States, Canada, and Mexico in recent years. Many events have helped shape the current North American food and fiber system, including the rapid pace of technological change, shifts in domestic farm policies, the Canada-U.S. Free Trade Agreement (CUSTA), the North American Free Trade Agreement (NAFTA), and multilateral trade negotiations in the General Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO). As a result of these events and the forces of demand and supply, many commodity, product, and input markets on the continent now operate in a more efficient and integrated way.

The North American Agricultural Market Integration and Its Impact on the Food and Fiber System (NAAMI) Symposium was held in Washington, DC, on November 6-7, 2000, to examine market unification of U.S., Canadian, and Mexican agricultural economies[1] (see Appendix A, NAAMI Symposium Program Agenda). This report synthesizes information exchanged at the NAAMI Symposium and obtained from a review of the literature on spatial and temporal integration. It explains why more integrated markets often benefit society, identifies obstacles that continue to constrain markets in North America from functioning more in unison, gauges the progress achieved in rendering continental markets more economically unified, and identifies challenges and opportunities that could deepen market integration in North American agriculture.

Key findings:

- *Trade patterns show the growing importance of continental trade in North American agriculture.* Since the advent of CUSTA, the real (1989-91) value of agricultural trade among the United States, Canada, and Mexico increased 120 percent between 1987-88 and 2000-01, rising from $11.2 billion to $24.6 billion. This expansion is significant because the growth of intra-NAFTA agricultural trade has been more rapid than NAFTA-member exports to countries outside North America.

- *Growth in foreign direct investment (FDI) within the NAFTA region has enhanced increased continental integration of agricultural food and fiber markets.* Expansion of FDI has been particularly rapid in the food processing industry. This expansion has transferred cutting-edge technology and has increased the domestic supply of relatively scarce resources that constrained output in this industry. Even though FDI has outpaced cross-border food trade, it has not displaced overall trade in processed foods. Empirical analysis reveals that FDI has contributed positively to U.S. exports of processed foods.

- *U.S.-Canadian agricultural markets are well integrated for most, but not all, commodities.* U.S.-Canadian markets for spring wheat and feed barley are highly integrated and have become more unified following CUSTA legislation and reform of the Western Grain Transportation Act in Canada. U.S. and Canadian beef and pork product markets are also well integrated, with pork more so than beef primarily because of the lack of national grading equivalencies for beef. U.S. and Canadian poultry markets are, by contrast, segmented markets—the result of supply-management policies in Canada.

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[1] Program participants included research economists, representatives from private enterprise, and government officials close to the policy formation process. The charge given these participants was to share information about the evolutionary structure of North American agriculture, reasons why change has or has not occurred, the economic consequences of a more integrated continental market, and the desired direction for future policy.

- *The increased flow of Mexican immigrants into the United States points to greater integration of the U.S.-Mexican labor market.* One in 25 Mexicans crossed the U.S.-Mexican border during the 1990s. Employment of low-wage Mexican laborers in U.S. agriculture helped to keep production costs low on U.S. produce farms and in U.S. meatpacking plants. The flow of money sent to Mexico by Mexicans working in the United States has become much larger than the inflow of both private investment and money provided by multilateral development banks. Conditions in rural Mexico would be significantly worse if Mexican migrants were unable to work in the United States.

- *Recent shifts in policy and changes in technology have facilitated structural unification within certain industries.* CUSTA/NAFTA removed obstacles that were responsible for segmentation of national fruit and vegetables markets in North America. The establishment of innovative contractual and institutional arrangements efficiently linked produce farmers in all three countries to retailers throughout the continent. Greater integration of the continental fruit and vegetable industry is likely to have generated increasing returns because per–unit variable costs typically increase little, if at all, with market expansion.

- *Larger and freer agricultural markets in North America have generated substantial benefits to society.* The post-CUSTA/NAFTA rise in bilateral complementarities—complementarities that link one country's export specializations with its partner's import shares across the spectrum of all traded goods—provides empirical evidence that change in the United States, Canada, and Mexico has increased the efficient use of available agricultural resources. Mexican farmers are now exporting, for example, more papaya, strawberries, grapes, watermelon and other fruits in which Mexico has comparative advantages to the United States and Canada, where demand for fresh produce is rapidly expanding. And American and Canadian farmers are better able to meet Mexico's demand for corn and oilseeds by offering Mexican consumers lower prices for these staple commodities.

- *More could be done to deepen market integration within North America.* National boundaries continue to segment country markets. The continental market remains less integrated than the national economies of the United States, Canada, and Mexico. Prior to the formation of CUSTA/NAFTA, within-country trade was about 20 times larger than between-country trade in North America, after controlling for the influence of distance and market size. By 2000-01, within-country trade was about 12 times greater than between-country trade. The discrepancy still remaining between internal and cross-border trade in North America suggests that continental markets would become more integrated if all artificial barriers inhibiting cross-border trade and investment were removed.

- *The pace of CUSTA/NAFTA-induced market integration in agriculture shows signs of slowing.* Bilateral trade intensities reflect the importance of trade between two partners. Indicators of intensity for U.S. agricultural trade with its neighbors rose in the early years post-CUSTA and post-NAFTA, providing evidence that these North American free trade agreements helped deepen continental market integration. Recently, however, the importance of trade between the United States and Canada has reached a plateau, and the significance of trade between the United States and Mexico has declined.

- *A common North American currency would increase price transparency, lower transaction costs, and promote integration of continental markets.* However, the choice between retaining flexible exchange rates among the NAFTA countries or creating a monetary union between and/or among the United States, Canada, and Mexico has far-reaching ramifications that transcend the single issue of market integration. Policymakers are faced with a tradeoff in making this decision. Is the enhanced efficiency of a single currency worth surrendering the use of national monetary policy to address domestic economic shocks?

- *Broadening the CUSTA/NAFTA agenda to include institutional reform would advance the cause of market integration across national borders in North America.* The initial focus of CUSTA/NAFTA was the conversion of nontariff barriers to tariffs and the lowering and eventual removal of all tariffs. The adoption of a more universal system of commercial law, common antitrust and regulatory procedures, harmonization of product standards based upon sound science, and better coordination of domestic farm, marketing, and macroeconomic policies would mitigate institutional obstacles that continue to segment markets in North America.