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Technological Changes in the Transportation Sector – Effects on U.S. Food and Agricultural Trade

A Proceedings

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Abstract

ERS sponsored a workshop, *Technological and Structural Change in the Transportation Sector: Effects on U.S. Food and Agricultural Trade*, March 17-18, 1999, in Washington, DC. The program's objectives were to raise awareness within ERS about the role and importance of transportation in U.S. food and agricultural trade and to discuss the need of an agency research agenda in this area. More than 60 people attended. Bob Thompson of the World Bank and Jeffrey Frankel of the Brookings Institution led with discussions about the role of transportation in the global food system and the importance of integrating geography and transportation in analysis of international trade. Other panels dealt with transportation technology, past and future, the changing policy environment for ocean shipping, logistical and technological developments aiding exports of specific commodities, including the use of supply chain management. Representatives of the Agricultural Marketing Service discussed the availability of transportation cost data, and the availability of other shipping data was discussed by representatives of the PIERS database, a product of the *Journal of Commerce*. Two ERS research projects were summarized, one using GTAP and another applying the gravity model to estimate the extent to which distance is less of an inhibiting factor in exporting certain U.S. agricultural exports. The administrator of the Agricultural Marketing Service, the ERS associate administrator, and representatives of the Transportation Research Board, the USDA's World Board, and the Farm Foundation discussed potential ways ERS could include the transportation variable in its research. The program was cosponsored by the Farm Foundation and World Perspectives, Inc.

Keywords: Transportation, distance, technology, agricultural trade, United States.

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Foreword

Transportation has always been important in agricultural trade, as reflected in the *1940 Yearbook of Agriculture*: "Transportation, whether provided by commercial agencies or by the farmer himself, is a vital necessity to the economic functioning of agriculture."

Income growth overseas and accompanying changes in food preferences and diets are most often cited as drivers behind the unmistakable, more than decade-long shift in U.S. agricultural exports from bulk commodities (e.g., wheat and soybeans) to nonbulk items (e.g., meats and fruit). While income growth and some policy measures to liberalize trade are key determinants in the rise of perishable shipments, advances in transportation technology and logistics are equally important. For U.S. agriculture to benefit from growing overseas demand for, say, fresh fruits and vegetables, shippers must be able to deliver them to purchasers thousands of miles away with no substantial loss in freshness and quality.

Perishable agricultural products, many of which U.S. farmers could only have dreamed of selling abroad just 10 years ago, now account for about 20 percent--a growing share of total U.S. food and agricultural exports. Moreover, the cost of transporting perishable products is, in many cases, substantially more than for bulk commodities: 5 to 10 percent of the free on board (fob) value of grain versus over 30 percent for important horticultural products such as citrus and frozen potatoes. In part due to declining transportation costs and new technologies for handling and extending shelf life, perishable products are a rising component of trade in food and agricultural products.

The dynamic growth in perishable products trade and the role of technology in lowering the costs for shipping and handling time-sensitive products motivated the ERS-sponsored workshop, *Technological Changes in the Transportation Sector--Effects on U.S. Food and Agricultural Trade*, held March 17-18, 1999. More than 60 people attended the one-and-a-half day program. The presentations covered a variety of subjects, including the incorporation of transportation and geography into international trade analysis; innovations in technology, past and future; the impact of changing U.S. maritime policy; and technological and logistical developments in exporting New Zealand dairy products and Sunkist citrus.

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