China's Food and Agriculture: Issues for the 21st Century

Introduction

As the 21st century opens, China stands ready to assert itself as a major player in global markets. Its accession to the World Trade Organization (WTO) is the latest step in China's incremental journey from an economy characterized by planning and self-sufficiency to one that is market driven and globally integrated. China may undergo unprecedented changes in the coming century as it transforms itself from a largely rural, centrally planned, low-tech economy into an urbanized, market- and consumer-driven economy, where new technologies are used and developed.

A Key Player in Agricultural Trade

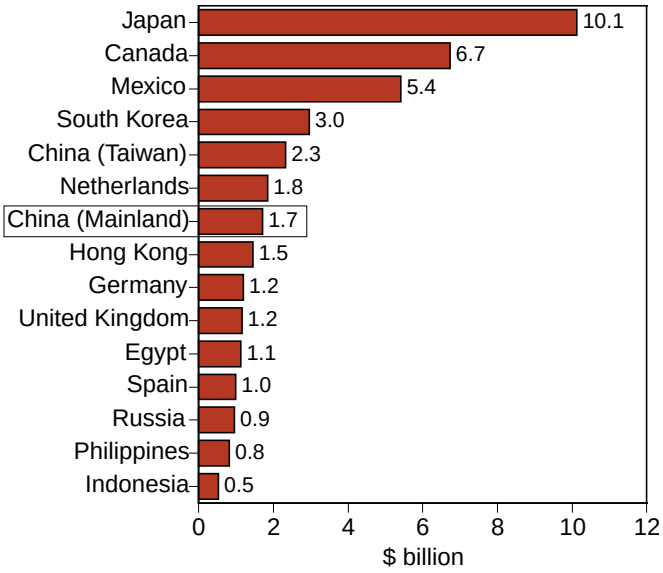
The food and agricultural sector in China may see some of the most dramatic changes. With one-fifth of the world's consumers, one of the world's fastest-growing economies, and a limited endowment of arable land, China is seen by many as a potential source of increased demand in world food markets. Currently, China's food import levels are surprisingly small for a country with such a large population and a limited land base. For example, mainland China's purchases of food and agricultural imports from the United States are similar in value to purchases by Taiwan, Hong Kong, and the Netherlands, places with much smaller populations. Despite its size, China is only the seventh-leading destination for U.S. agricultural exports, with sales averaging $1.7 billion per year during 1995-2000 (fig. A-1). At the end of the 20th century, China accounted for just 3 percent of world agricultural trade, was largely self-sufficient in food production, and was a major exporter of many agricultural items. While China is already a major market, it has significant potential for increased food imports.

China's role in world agricultural markets is magnified by the volatility of its patterns of trade. Since the late 1970s, U.S. agricultural exports to China have followed a roller coaster pattern as China periodically buffeted grain and oilseed markets with unexpected purchases or sales (fig. A-2). Wide year-to-year swings in China's agricultural imports add considerable uncertainty to commodity markets. With its new membership in the WTO, however, China may become a larger and steadier trading partner in markets for food and agricultural products.

This report is an introduction to issues related to China's food and agricultural outlook for the 21st century for policymakers, business analysts, researchers, and others interested in how the world's most populous—and perhaps fastest changing—country will affect agricultural trade and commodity markets in the coming decades. A series of brief articles on 13 key issues provides brief background information on each issue, assesses the current state of knowledge, and asks questions about what might happen and what we need to know. The articles are speculative in nature, and may raise as many questions as they answer. The list of issues covered here is by no

Figure A-1

Average annual U.S. agricultural exports to leading countries and regions, 1995-2000

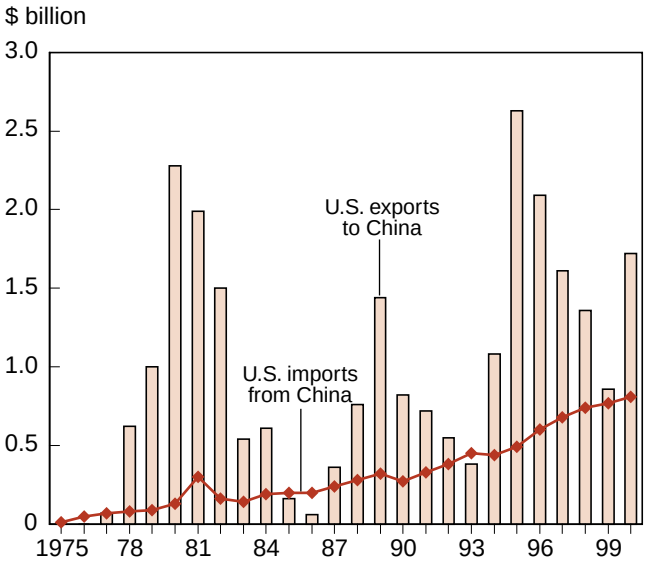


Note: Chart shows average value of U.S. total agricultural exports for years 1995-2000.

Source: Calculated by ERS using data from USDA Foreign Agricultural Trade of the United States.

Figure A-2

U.S. agricultural exports to and imports from China, 1975-2000



Source: USDA Foreign Agricultural Trade of the United States.

means exhaustive, but the coverage of issues is broad enough to give the reader a good overview.

Growing Consumption, Limited Resources

China is one of the world's largest and most volatile customers for agricultural products. Yet, for a country of its size and limited resource endowment, China's agricultural import levels are modest. China tends to import bulk commodities and items used as intermediate inputs in labor-intensive manufacturing. China is a major exporter of high-value products, such as manufactured foods, animal products, fish, vegetables, and fruits. While per capita incomes and food expenditures in China are still low, food security is not a problem for most of the country's population. Food-consumption levels have grown and will continue to grow as the country grows richer, but this growth will further strain China's limited land and water resources. Further domestic production increases will require more efficient use of agricultural inputs. The transfer of millions of agricultural workers to nonfarm work is a key issue that will affect agricultural production and the welfare of China's 800 million rural residents.

Meat Consumption May Boost Feed Imports

As China's consumers grow wealthier and move from rural to urban areas, purchases of all foods will increase, but consumption of meats, fish, fruits, and vegetable oils will rise the fastest. Consumption of processed foods, eating out, and concerns about food quality and safety are becoming more common in China. The rapidly maturing retail food sector reflects increasing consumer demand for convenience, quality, and value-added in foods. The increase in meat consumption may be one of the most important developments in China's agricultural sector. The increased demand for feed grains to support a growing and modernizing livestock industry is likely to generate increased demand for imports of both meat and feed grains.

As exporters prepare to enter the "China market," it is important to keep in mind the regional diversity of the country. Important differences in development level, living standards, and reliance on trade are evident between northern and southern China, eastern and western China, and urban and rural China. These differences seem to be magnified as rapidly growing coastal cities pull further ahead of inland cities and rural areas. Historically, provinces have competed with one another to develop their local industries, a practice that dampened interregional trade and encouraged inefficient industry structure and overcapacity. Greater competition brought about by the country's WTO accession will likely encourage a more integrated national economy with fewer, more-efficient firms.

The rapid development of China's transportation and marketing infrastructure is also playing a role in integrating the national economy. However, transportation and logistics costs account for an estimated one-fifth or more of retail prices, much higher than in developed countries. Marketing costs will need to be reduced to allow farmers in China's interior to compete for markets on China's coast and overseas. Inadequate port facilities and lack of warehousing and cold storage facilities impede both domestic and international trade. Increased competition after the country's WTO accession will likely push China's food marketing system to squeeze out inefficiencies and reduce farm-retail margins.

Slow Growth in Agricultural Trade

China's agricultural trade has grown slowly, especially in comparison with its booming merchandise trade. The country's goal of food self-sufficiency has led policymakers to restrain imports of land-intensive grains, the production of which has a high opportunity cost in land-scarce China. In accordance with its

membership in the WTO, China will lower tariffs, weaken state trading monopolies, increase the openness of import license and quota allocation, and require publication of trade regulations, thus weakening most of the policy instruments the government has used to restrain agricultural imports. At the same time, WTO entry may open more markets for China's labor-intensive exports, potentially moving China's trade patterns in a direction that will make more efficient use of the country's resource endowment.

From the 1950s through the early 1990s, China taxed its agricultural sector by procuring commodities at below-market prices to subsidize urban consumption and industrial development. During the 1990s, central government taxation of farmers receded (although local taxes and fees have become more of a burden for farmers). In the late 1990s, the government procured grain at above-market support prices and market prices of some commodities rose above world prices. As its control over trade weakens after the country's WTO accession, China's government may look at other means of protecting and subsidizing farmers to maintain a degree of food self-sufficiency and social stability. Government subsidies for China's farmers are minimal now and both "amber-box" (potentially price-distorting subsidies) and "green-box" (infrastructure, education, and other subsidies not tied to prices) spending could rise considerably while staying within China's WTO commitments.

Constraints on Production Growth

Since the 1980s, China's government has heavily supported research in biotechnology, including development of high-yielding, insect- and drought-resistant plant varieties that potentially could allow farmers to produce more food from China's limited land area. However, China now seems to be taking a cautious approach to biotechnology. Genetically modified (GM) varieties of most of China's major crops have been developed, but only a few have been approved for commercial use. In 2001, the government published regulations on labeling of GM foods, which disrupted imports of soybeans, most of which are grown from GM seeds in the United States and South America. The regulations left out details that would determine the stringency of the regulations, leaving much uncertainty about China's approach to biotechnology.

Land and water are key agricultural inputs that limit China's agricultural production capacity. Indeed, the current level of use of these inputs may be unsustainable. Surface water supplies have dwindled in much of northern China, and ground water is being depleted through heavy agricultural, industrial, and household use. Environmentally fragile cultivated land is being returned to forests and grass cover, while some highly productive agricultural land is being lost to urbanization. Much of China's economy is now governed by market forces, but land and water are not. Farmland is owned collectively by villages, and village leaders allocate land-use rights to households in their villages. Land cannot be bought or sold by individual farmers, and land rentals are relatively uncommon and mostly informal. The land-tenure system is equitable, but the lack of land markets impedes the readjustment of land to its most efficient use. Water is exploited as a common property resource, and low marginal prices lead to overuse. The development of improved institutions to manage and allocate scarce land and water resources will be crucial to expanding China's agricultural production capacity.

Labor is China's most abundant resource and roughly half of the country's workers are employed in agriculture, where incomes are low. The creation of nonfarm jobs for China's large rural population is critical to the country's economic development. Job creation will be a difficult challenge, as many rural and urban employers will face competitive pressures to cut costs after China's WTO entry, thus making employers less inclined to hire more workers. China will need to develop credit markets in rural areas and reverse its historical urban bias in education, technology, and infrastructure investment to spur development of its rural hinterland and create new jobs. The easing of restrictions on rural-urban migration will also be necessary. Service industries, which tend to concentrate in urban areas, will account for much of China's job growth as the economy develops.

Reliable Market Information Needed

Reliable information is needed for analysts to accurately assess China's development and for markets to work efficiently. Many market analysts distrust China's official statistics, many of which rely on a bureaucratic bottom-up reporting system set up for a centrally planned economy. Improvements in China's statistical system, including implementation of modern survey methods and reconciliation of statistics produced by multiple agencies, will improve the functioning of markets. It will be equally important to increase trans-

parency by publishing important numbers, such as grain and cotton stocks, which are now considered state secrets.

Questions Abound

The titles of each of the 13 issue articles in this report are in the form of a question. While the report also provides a rich source of information, its main purpose is to encourage speculation and inquiry about the future path of food and agriculture in China. The emphasis on questions is especially appropriate for study of China, since the country's 20th-century path took many unexpected twists and turns. Will China continue on the path toward increased market orientation and global integration, or will the road to reform be marked by further periodic retrenchments as in the past? Will the greater transparency and open borders mandated by China's WTO commitments reduce the uncertainty and volatility that characterized its agricultural trade during the 20th century? Will China develop its economy without leaving its large rural population behind? The answers to these questions have important implications not only for China's development but also for the smooth functioning of world markets for food and agricultural products, which affects all nations.