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Agricultural Policy

Opportunities for U.S. Pork in China and Implications for U.S. Hog Producers

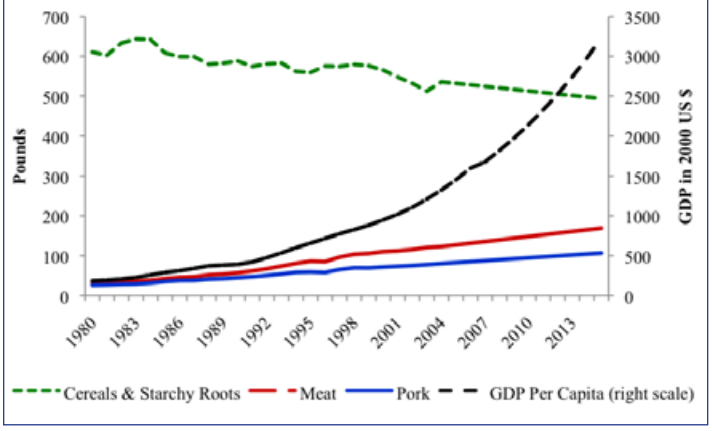
David L. Ortega
H. Holly Wang
Department of Agricultural Economics

The emergence of China onto the world economic stage has many implications for U.S. hog producers. China is making a transition from a developing economy to a developed one. Its population is becoming wealthier, demanding more goods, and eating more high-quality food. There will thus be a surge in demand for pork, the primary meat in Chinese diets. Hog producers will need to meet this surging demand by increasing supply and increasing the efficiency of the supply-chain. Although U.S. pork exports to China have been stagnant, events and negotiations have resulted in some progress.

Chinese Pork Demand

Pork has historically been the primary animal protein source in Chinese diets, and its consumption level tripled between 1980 and 2003. Chinese consumers are earning higher incomes and shifting consumption away from grains and legumes toward meats (Figure 1), a variation of Bennett's Law, which states that as incomes increase, the source of calories shifts from carbohydrates to animal proteins. This is a phenomenon observed in many developing countries. Chinese per capita income increased over 759% between 1980 and 2006. During that same period, daily per capita consumption of cereals and starchy roots in China decreased 16%, while per capita meat consumption increased 274%. In 2003, the average Chinese citizen consumed approximately 78 pounds of pork, compared to 26 pounds in 1980. Today, per capita pork consumption is estimated to be much higher.

Figure 1. Chinese Diet & Income (Per Capita)



Source: FAO (2008).

Note: 2007-2015 GDP per capita data and 2004-2015 food consumption data are predicted.

There are several differences between the type of pork demanded by consumers in China and in the U.S. Chinese consumers tend to place higher value on cuts regarded as less desirable in the U.S. and place less value on the traditional U.S./European cuts. For example, internal organs (offal) sell at a premium compared to lean muscle meat in the same market. A second difference is the amount of external fat present on the meat. Chinese consumers prefer pork with a certain fat content, as opposed to U.S./European consumers, who are drawn to lean cuts. Thus, from the point of view of the American hog producer, overall Chinese pork demand is, for the most part, complementary to that of U.S. consumer demand. U.S. consumers prefer lean muscle meat, while Chinese consumers welcome fatty meat cuts, neck and back bones, ears, feet, and tails.

Using historical data, projections can be made regarding pork and total meat consumption in China (Figure 1). Based on projections, per capita pork consumption in 2015 can be roughly estimated to be 107 pounds. Using a predicted population figure of 1.40 billion, projected total Chinese pork demand for human consumption for the year 2015 is estimated to be around 68 million metric tons. This is over a 50% increase from 2003, when pork consumption was 45 million metric tons. These numbers raise another very interesting question: where will all this pork come from?

Chinese Pork Production & Supply

Chinese pork production grew rapidly after 1985, when the government removed state procurement quotas and price controls (Figure 2). Today, about 80% of pork raised in China comes from local backyard production (Wang et al., 1998). Unlike in the U.S. and Europe, local backyard producers are key players in the Chinese pork-processing sector, often cutting, processing, and selling their own pork. Because of a lack of refrigeration and poor transportation and distribution systems, however, many manufacturers and distributors supply solely to regional markets.

To keep up with surging demand, China has recently begun to implement the Western model of consolidating and industrializing livestock production. Dozens of large hog operations have emerged outside major cities, raising 1,000 plus animals. Economic growth in China is driving the consolidation and commercialization of pork production. However, this rapid transition has posed serious obstacles to the industry. Confinement of hogs combined with low sanitation standards has provided suitable breeding grounds for disease.

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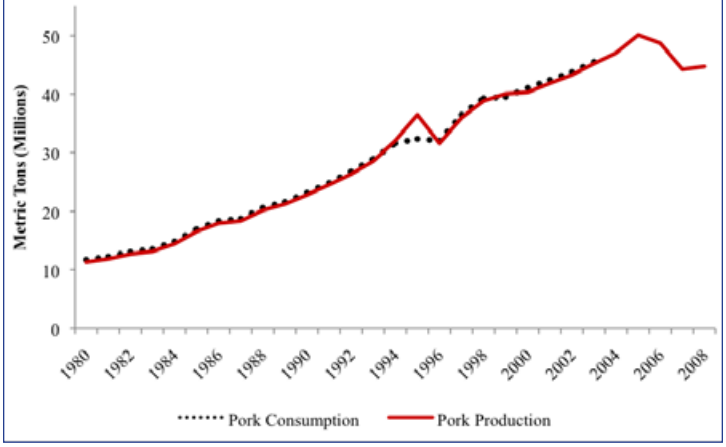
The damage caused by the spread of porcine reproductive and respiratory syndrome virus, more commonly known as PRRS or "blue ear pig disease," made the news. The disease has resulted in a large reduction in China's pork production. As of early 2008, this virus was found in 25 of China's 33 provinces and regions, generating widespread panic for Chinese hog producers. According to The New York Times, approximately 25 million pigs die every year in China due to the disease. Figure 2 shows a 10.8% decrease in pork production between 2005 and 2008, which most U.S. agricultural economists attribute to the PRRS outbreak. Although this 6 million metric ton decrease does not appear significant given China's massive production capability, it is equal to more than half of the United State's 2008 pork supply. The epidemic raises serious concerns about the short-run pork supply in China. This shortage in the domestic market will have to be filled by either increased imports or reduced exports.

Figure 2. Chinese Pork Consumption and Production



Source: FAO (2008) and USDA Foreign Agricultural Service (2008).

Note: Consumption data for 2004-2008 is not currently available.

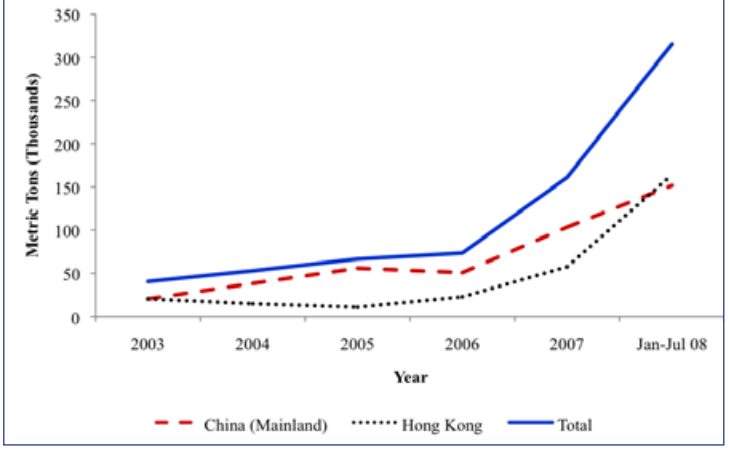
Although the Chinese government is trying hard to encourage more investments in hog production, it remains a challenge in the long run for domestic pork supply to meet the rapidly increasing demand. This is due to the current high world feed costs and limited Chinese arable land, which restrict domestic feed production. In the past, China has been cautious about importing food and feed grain (except for oilseeds), and it seems unlikely that China will import a lot of feed grain to support large-scale hog production.

U.S. Pork Exports to China

It goes without saying that the speed with which China begins to import U.S. pork depends on the politics and negotiations between the two countries. In the recent past, China has successfully prevented the importation of U.S. pork, claiming ractopamine as the reason. (See "Ractopamine Ban and Implication for U.S. Hog Producers.") However, food inflation and rising costs of animal feed, veterinary supplies, and fuel are putting increasing pressure on the Chinese government to negotiate trade deals with the U.S and other countries. In September 2007, Smithfield Foods Inc., the world's largest pork producer and processor, negotiated a first-of-its-kind deal to sell 60 million pounds of pork to China. More recently, in July of 2008, COFCO (the Cereals, Oils and Food Corporation of China) agreed to buy 7 million shares, or 4.95%, of Smithfield Foods Inc.'s stock, paving the way for a strategic alliance between the world's largest pork processor and consumer.

Recent data on trade between the U.S. and China show a drastic increase in U.S. pork exports to China (Figure 3). January-July 2008 pork exports to mainland China were 152 thousand metric tons, a threefold increase from the previous year. China's recent pork price surge has also contributed to the increase in U.S. pork exports to China. China's average retail pork price for January-June 2008 was 21,021 RMB (US 3,047) per ton, a 63% increase over the same period the previous year. Many analysts believe that Chinese domestic pork prices will remain high through much of 2009 because of rising feed costs, which accounts for 70% of total swine production costs in China (Zhang & Beckman, 2008).

Figure 3. U.S. Pork Exports to China



Source: USDA ERS (2008).

Another factor contributing to the surge in pork exports to China is the decrease seen in China's strategic pork reserves due to production shocks caused by the PRRS outbreak and the Sichuan earthquake, which destroyed 4-5 million hogs. These supply shocks have forced the government to increase their frozen meat reserves, which are composed mostly of U.S. pork, specifically from Smithfield, Inc. (Zhang & Beckman, 2008).

COFCO, having little experience in the slaughtering and processing of hogs, wants to play a larger role in the Chinese pork sector. Many economists see COFCO's recent purchase of 7 million shares of Smithfield Foods as a strategic move designed to increase Smithfield's access to the Chinese market.

Ractopamine Ban and Implication for U.S. Hog Producers

Ractopamine (RAC), which is commonly sold as Paylean®, is a lean-meat additive used commonly in U.S. hog production because of U.S. consumers' preference for leaner meat. It is classified as a beta agonist, not a steroid or a hormone. RAC has been proven safe for human consumption in over 30 countries, and research has indicated that it has no significant effect on pork quality. China currently bans the importation of pork fed ractopamine, and this non-tariff trade barrier poses an obstacle for U.S. producers trying to enter the Chinese market. An estimated 50% of all U.S.-grown hogs are being fed ractopamine (Schinckel et al., 2005). However, given that Chinese consumers prefer fattier cuts of pork and discount lean western-cuts, profit opportunities are available for U.S. RAC-free pork.

Market Competition

Competition is anticipated in Chinese pork markets. First, domestic production is expected to recover a little from the PRRS outbreak, and recent high domestic pork prices are expected to fuel investments in hog production. The Chinese purchasing of Smithfield stocks could signal the beginning of U.S. technology adoption with regard to PRRS control. In addition, large companies such as COFCO and Smithfield have the potential to invest in and directly mange large hog operations, smoothing out production over the next year or two. However, as discussed earlier, the feed and land constraints will prevent the domestic hog supply from growing as quickly as demand.

Other world pork exporters such as Demark, Canada, and Brazil may increase their market share in China. However, the weak U.S. dollar and the newly established relationship between China and Smithfield will make U.S. pork more competitive relative to these countries.

The Chinese government's trade protection policies will continue to encourage domestic production; however, China is expected to become more open to U.S. imports in an effort to balance trade. Alongside energy and technology, agricultural commodities are high on the list of consumption goods that China is willing to import. Just as China is importing soybeans for edible oil use, pork can become another commodity that China is willing to import.

Although weekly shipments of U.S. pork to China are still a long way away, China has more reasons than ever to speed up pork negotiations with the U.S. With decreasing farm land, a rising middle class, a diminished pork supply, and pork consumption at an all-time high with no signs of slowing down, the stage is set for the U.S. to become a strategic partner in the Chinese pork sector.

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