Center for Agricultural Policy and Trade Studies
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# NEWSLETTER

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## Potential Effects of a Free Trade Agreement with Korea

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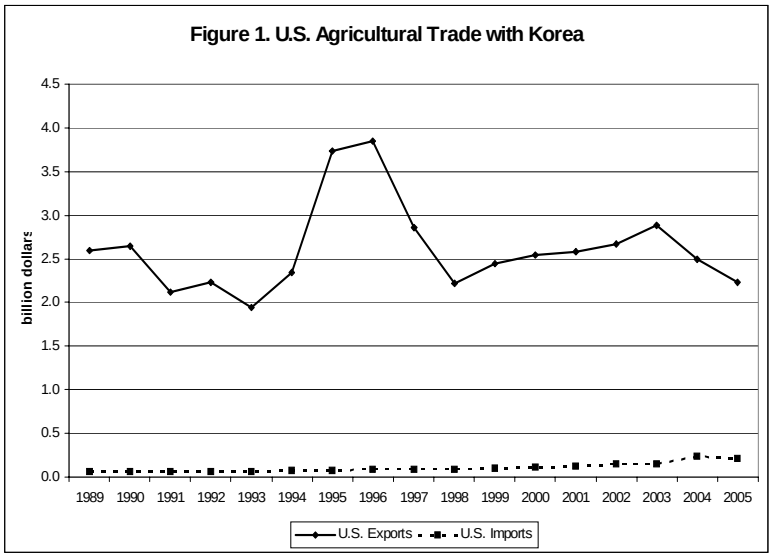
The U.S. Trade Representative announced in early 2006 that the United States would begin to negotiate a free trade agreement with South Korea. If completed, this agreement would be the largest U.S. free trade pact since the North American Free Trade Agreement (NAFTA) of 1994. Details of the agreement have not been finalized, but the characteristics of U.S. and Korean agriculture suggest that an agreement could provide some benefit for the U.S. agricultural sector.

Rice is the main crop produced in Korea, and it is the only grain grown in significant quantities. Korea does not export or import a significant quantity of rice. Korea imports other grains, such as wheat and corn to meet its domestic demand. Korea consumes approximately 9 million metric tons of corn per year, 2 million metric tons for food and 7 million metric tons for feed, but the country produces just 60-80 thousand metric tons. Fruits and vegetables, such as cabbage, onions, watermelons, apples, pears, and citrus, are the most significant products grown in Korea other than rice. Korea was one of the largest importers of beef. However, the country banned beef imports from the United States because of the BSE discovery in December 2003. Recently, Korea agreed to import beef produced from cattle less than 30 months of age.

Although the United States had an overall trade deficit with Korea of $16.0 billion in 2005, there was a $2.0 billion trade surplus for agricultural products (figure 1). Despite this trade surplus, U.S. agricultural exports to Korea over the last 15 years have been rather stagnant. Exports of many products are below the highs reached in the mid 1990s. Despite these decreases, the country remains an important market for U.S. exports. Meanwhile, Korea has not been a significant supplier of U.S. agricultural imports. The country ranked as the 37th largest exporter of agricultural products to the United States in 2005. Most U.S. imports from Korea are non-agricultural products such electronics, vehicles, and other manufactured products.

U.S. agricultural imports from Korea include vegetables; fresh fruit, mostly pears; wheat products such as pasta, noodles, biscuits, and wafers; dairy products; soups and sauces; wine; and confectionary products. With the exception of pears, however, Korea is not a major supplier of these products to the United States. The major U.S. agricultural exports to Korea include beef, corn, soybeans, cowhides, wheat, and cotton. In fact, these six products have accounted for roughly 60 percent of U.S. agricultural exports to the country in recent years. Other major exports to Korea include pork, poultry meat, oranges, and dairy products. Exports of pork products increased significantly in 2005. Beef had been the top U.S. agricultural export to Korea in terms of value prior to the country's ban of U.S. beef. Beef accounted for a quarter of U.S. exports to Korea in 2003. Furthermore, the country represented about a quarter of the U.S. export market for beef.

**Figure 1. U.S. Agricultural Trade with Korea**



Korea's total agricultural imports equal approximately $10-$11 billion per year. The United States had an estimated market share in Korea of about 24% in 2005, which was down from 33% in 2003 (table 1). The U.S. market share for bulk product exports to Korea is around 30-40%. The United States competes with China for exports of corn to Korea and with Australia and Canada for exports of wheat. The United States is the dominant supplier of soybeans to Korea, although the market share has slipped somewhat in recent years.

Table 1. South Korea Agricultural Imports (million U.S. dollars)

| | 2003 | | | 2004 | | | 2005 | | |
|---|---|---|---|---|---|---|---|---|---|
| | World | U.S. | U.S. Market Share | World | U.S. | U.S. Market Share | World | U.S. | U.S. Market Share |
| Consumer | 3779 | 1564 | 41% | 3494 | 785 | 22% | 4121 | 866 | 21% |
| Intermediate | 3063 | 823 | 27% | 3600 | 726 | 20% | 3837 | 775 | 20% |
| Bulk | 3011 | 839 | 28% | 3614 | 1678 | 46% | 3192 | 1010 | 32% |
| Total | 9853 | 3226 | 33% | 10708 | 3189 | 30% | 11150 | 2651 | 24% |

Source: Foreign Agricultural Service, USDA

The U.S. market share for Korean consumer-oriented imports dropped from 41% in 2003 to 21% in 2005, largely because of Korea's ban of U.S. beef. Korea is a growing market for exports of consumer-oriented products. Red meat is the most significant consumer-oriented product imported by Korea. Other consumer-oriented imports include fresh or processed fruits and vegetables, fruit and vegetable juices, snack foods, poultry meats, processed dairy products, and other various products. China and Australia are the main competitors for exports of these products.

A trade agreement with Korea would likely have a more significant impact on U.S. agricultural exports than it would on U.S. agricultural imports because Korean agricultural tariffs and trade barriers are larger than those in the United States, and resource endowments favor exports of agricultural products from the United States to Korea. Korea applies high tariffs on a number of agricultural imports. According to the U.S. Trade Representative, Korea imposes tariffs of 30 percent or higher for most fruits and nuts, many fresh vegetables, starches, peanuts, peanut butter, various vegetable oils, juices, jams, beer, and some diary products. The country also poses high tariffs on beef, pork, and poultry meat.

The largest potential for growth in U.S. exports to Korea is likely for consumer-oriented products, including processed foods, meat products, dairy products, fruits, and nuts. The growth of the Korean economy has led to a shift in consumer dietary patterns. Korean consumer demand is becoming more like U.S. consumer demand. Korean per capita consumption of rice continues to decline while consumption of wheat-based products, meats, and fruits increase. The market for bulk and intermediate products is fairly flat, but imports of these products are needed to support the domestic processing industry. With the exception of rice and a few dairy products, domestic production in Korea cannot meed the demand for the products in the domestic processing industry. A free trade agreement may improve U.S. market share for grains in Korea.

U.S. agricultural imports from Korea would not likely increase as significantly under trade liberalization because U.S. agricultural tariffs are lower, and Korea does not have the production capacity to be a significant exporter of agricultural products to the United States.

## The U.S. Dollar and the Declining Agricultural Trade Balance

*Jungho Baek, Kranti Mulik, Jeremy W. Mattson, and Won W. Koo*

The U.S. agricultural trade surplus declined from $26.9 billion in 1996 to just $3.7 billion in 2005. One common explanation for changes in the trade balance is the exchange rate. The appreciation of the U.S. dollar in the 1990s may have caused decreases in the trade balance as U.S. goods became more expensive abroad, but the dollar has declined in value in recent years while the trade balance has continued to drop. One possible explanation for this is the J-curve theory. The J-curve theory suggests that the short- and long-run effects of exchange rate fluctuations on the trade balance differ. In other words, after a real depreciation, the trade balance deteriorates in the short-run and improves in the long-run, which causes the time path of the trade balance depicted by a tilted J shape.

Our study, however, finds little evidence that there is a J-curve effect for U.S. agricultural trade with Canada, Japan, and Mexico. For the non-agricultural trade, on the other hand, the behavior of U.S. trade with industrialized economies such as Japan and Canada follows the J-curve, but not with developing economies such as Mexico.

Our findings are important in understanding the recent deterioration of the U.S. trade balance. For U.S. agricultural trade, a change in the value of the U.S. dollar is not a significant factor influencing its trade balance in the short-run. This suggests that the shrinking agricultural trade surplus for the recent periods cannot be explained by the J-curve effect. Although the short-run responses of the trade balance in agricultural and non-agricultural goods to the U.S. dollar depreciation do not follow any consistent pattern, the long-run effects show that depreciation of the U.S. dollar improves the U.S. trade balance and vice versa.

If the exchange rate cannot explain recent declines in the agricultural trade balance, there must be other factors causing this decrease. Much of the decline in the U.S. agricultural trade surplus since 1996 is due to the rapid increase in the trade deficit for consumer-oriented food products. Rising U.S. income and increases in demand for more convenient, consumer-ready foods has increased demand for imports of consumer-oriented food products. Meanwhile, slower income growth in some important markets may have resulted in slower U.S. export growth. Finally, tariffs on high-value, processed foods products hinder the growth in U.S. exports.

For more details, see Agribusiness & Applied Economics Report No. 585, *The Role of the U.S. Dollar in International Trade.*

## Substitution Between U.S. and Canadian Wheat by Class

*Kranti Mulik and Won W. Koo*

Trade in grains, particularly wheat, forms one of the key components of U.S.-Canada agricultural trade. Due to the similarity in products, trade disputes are common in international trade. Wheat trade between the two countries has been one of the most disputed issues in international trade, often plagued by U.S. allegations of material injury to its domestic market. Recently, the U.S. International Trade Commission (USITC) investigated a petition filed by the North Dakota Wheat Commission and Durum Growers Trade Section Committee claiming that imports of durum and hard red spring (HRS) wheat from Canada were being subsidized and sold at less than fair value. The USITC later ruled that while imports of HRS wheat from Canada caused material injury to the United States, this did not hold true for imports of durum wheat.
While it is generally recognized that substitutability between like products is the key in resolving such disputes, product differentiation of wheat has largely been ignored in recent studies on wheat trade, with most studies treating wheat as a homogenous product. Only recently, the importance of treating wheat as heterogenous product has begun to be fully appreciated. This study views wheat as an input in the milling process which allows the substitution ratio of the various classes of U.S. and Canadian domestic wheat to be determined. The degree of substitution between the different wheat classes will help to resolve future trade disputes between the United States and Canada.

There are five major classes of wheat produced in the United States: hard red winter (HRW), hard red spring (HRS), soft red winter (SRW), soft white (SWW) and durum wheat; and two major classes of Canadian wheat, Canadian hard red spring and Canadian durum wheat. General understanding is that U.S. HRS wheat and Canadian HRS wheat are substitutable and U.S. durum is similar to Canadian durum wheat, while substitution between hard wheat and soft wheat is limited.

The USITC conducted a survey of U.S. millers to determine the relative substitutability of imported durum and HRS wheat with U.S. durum and HRS wheat. The commission found that relative prices, quality, and terms of sale were considered to be the most important factors in the millers' determination of substitutability. Millers indicated that Canadian HRS and durum are close though not perfectly substitutable with U.S. HRS and durum wheat, respectively. All of the millers surveyed indicated that both Canadian and U.S. wheat could be used in similar applications.

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We estimated a demand function to determine the relative substitution between U.S. and Canadian wheat varieties. We found that while HRS and HRW are highly substitutable, there is limited substitution between U.S. and Canadian durum and between U.S. and Canadian spring wheat. U.S. millers import Canadian wheat to achieve the desired quality and consistency in flour production, and they are relatively less price responsive to changes in prices of Canadian HRS and durum wheat. For example, the United States imports durum wheat from Canada to cover the shortage of domestic durum wheat production, particularly the #1 and #2 grade durum required for making high quality pasta for domestic consumption. Thus, a change in the price of Canadian durum does not trigger a large response in the quantity demanded by U.S. millers.

In the case of Canadian HRS, as indicated in a survey conducted by the USITC, U.S. millers prefer U.S. to Canadian varieties on most factors**.** This indicates that there is a quality differential between U.S. and Canadian HRS from the millers' view-point. The greater the quality difference between two similar classes of wheat, the less responsive millers will be to changes in the price of one class of wheat over the other, and they will be less likely to substitute one class of wheat for the other. While HRS and durum wheat produced in the United States and Canada can be used in similar milling applications, there is a quality difference between U.S. and Canadian wheat that may be the cause for limited substitution.

For more details, see Agribusiness & Applied Economics Report No. 587, *Substitution between U.S. and Canadian Wheat by Class.*

**Recent Publications**

*2006 North Dakota Agricultural Outlook: Representative Farms, 2006-2015*, by Richard D. Taylor, Won W. Koo, and Andrew L. Swenson, Agribusiness & Applied Economics Report No. 591, August 2006.

*2006 Outlook of the U.S. and World Sugar Markets, 2005-2015*, by Won W. Koo and Richard D. Taylor, Agribusiness & Applied Economics Report No. 589, August 2006.

*Substitution between U.S. and Canadian Wheat by Class*, by Kranti Mulik and Won W. Koo, Agribusiness & Applied Economics Report No. 587, August 2006.

*The Role of the U.S. Dollar in International Trade*, by Jungho Baek, Kranti Mulik, and Won W. Koo, Agribusiness & Applied Economics Report No. 585, August 2006.

*2006 Outlook of the U.S. and World Wheat Industries*, *2005-2015*, by Richard D. Taylor and Won W. Koo, Agribusiness & Applied Economics Report No. 586, July 2006.