

Opportunities and Challenges in Global Pork and Beef Markets

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Growing Global Demand for Animal Protein

Economic growth in emerging economies, along with growing global population, offers significant opportunities for U.S. pork and beef industries. Continued population growth is expected to lead to a global population in excess of 9 billion people before 2050. More importantly, especially in the short run, is economic growth in major emerging economies that significantly enhances the purchasing power of consumers. Most important among these are China and India, which have 36 percent of total global population between them. As countries move from low to middle income levels, food demand, in terms of both quantity and quality, is typically the first component of domestic consumption to increase.

Emerging middle-income consumers typically increase total food consumption and, as a result of replacing vegetable based protein with animal protein, increase meat consumption at an even faster rate. Pork and beef trade will likely expand as global demand for these meats is expected to continue growing. China figures prominently as a major driver of global food demand in the coming decades. China is a large country with many resources, but rapid urbanization and a largely traditional based agriculture mean that food demand will likely outstrip growth in food production in coming years.

Global Pork Market Overview

Global pork production among major pork producing nations has continued to expand over the past decade and is projected to exceed 110 million metric tons in 2014 (Figure 1). Global pork production has grown at an average rate of nearly 2 percent annually for the past decade. Global pork trade has expanded even more rapidly, increasing from 5 million metric

tons a decade ago to a 2012 peak of 7.3 million metric tons before decreasing in 2013 and 2014 to a projected 2014 level of 6.9 million metric tons (Figure 2). The projected 2014 global pork export level represents a more than 37 percent increase in global pork exports since 2005.

Major Pork Producing and Consuming Countries

China is by far the largest pork-producing country, singly accounting for half of global pork production and exceeding the second largest producing European Union by more than double (Table 1). China and the European Union (21 percent), along with the U.S. as the third largest pork producer (10 percent), accounted for over 80 percent of major world pork production in 2013. Other top ten pork-producing countries include Brazil, Russia, Vietnam, Canada, Philippines, Japan and Mexico, each of which accounted for less than 3 percent of major world production.

Pork consumption mirrors pork production in most cases with China, the European Union and the U.S. as the top three pork-consuming nations and most other major pork producing/consuming countries on both lists (Table 1). One exception is Canada, which exported about 69 percent of 2013 pork production, and is not among the top ten pork-consuming nations. South Korea, the number eleven pork-producing country in 2013, imported nearly 24 percent of total consumption and is the ninth largest pork-consuming nation.

Major Pork Exporting and Importing Countries

The U.S. and the European Union, each with 32 percent of major world pork exports, dominate global pork trade and, along with Canada at 18 percent, accounted for 82 percent of 2013 global pork exports (Table 2). Pork exports from Brazil were just over 8 percent of major world pork exports in 2013.

Japan, which imported nearly half of the country's total pork consumption in 2013, was the largest pork importer, accounting for 18 percent of major world pork imports. Other major pork-consuming countries that import a significant portion of total consumption include Mexico, where imports account for 40 percent of consumption, and Russia, with 27 percent of pork consumption imported. While significant quantities of pork are imported by a diverse set

of countries, the top four pork importing nations of Japan, Russia, Mexico and China accounted for 55 percent of major world pork imports in 2013.

North American Pork Market

Both Canada and the U.S. are major pork exporters in the broader global market while Mexico ranks as the third largest pork importer in the world. Integrated trade flows in North America are very important for the NAFTA partners. Mexico and Canada are the second and third largest U.S. pork export destinations, accounting for 36 percent of U.S. pork exports in 2013. Canada was the source of 80 percent of the relatively small quantity of U.S. pork imports with those exports representing 26 percent of total Canadian pork exports. The U.S. accounted for 72 percent of Mexican pork imports in 2013.

Live hog trade between the U.S. and Canada is important as well. The U.S. imported 5 million hogs in 2013, all from Canada, with 84 percent of those imported as feeder pigs. Live hog imports from Canada are down by 50 percent from the peak of 10 million hogs imported in 2007. Hog imports decreased sharply after the implementation of mandatory Country of Origin Labeling (COOL) in the U.S. in 2008.

The Porcine Epidemic Diarrhea virus (PEDv) has caused enormous losses and challenges in the North American pork market since early 2013. The disease has affected the pork industries in Canada, the U.S. and Mexico causing losses of millions of baby pigs. To date, no cure for the disease is known though an experimental vaccine has been conditionally licensed to try to curb the disease.

Trends and Issues in Global Pork Markets

China has not historically been a significant player in global pork trade despite being, by far, the world's largest pork producer and consumer. However, in recent years, the deficit of Chinese pork production has become more apparent and China has emerged as the fourth largest pork-importing nation. Continued growth in Chinese imports could quickly result in China becoming the largest pork importer and have a dramatic effect on global pork markets.

Market access issues are always important in meat trade. Concerns over the beta agonist product ractopamine, which is banned in some countries - most notably Russia and China, continues to impact pork production and trade. Decreases in global pork trade since 2012 have largely been the result of Russia decreasing imports because of ractopamine. In the U.S., a significant proportion of pork production is now ractopamine-free in order to maintain access to international markets. Russia, which was closed to U.S. pork for over a year due to ractopamine, reopened earlier in 2014 only to close again very recently due to the political issues surrounding the Russia-Ukraine situation. In North America, the U.S. Country of Origin Labeling law is a continuing source of agitation with Canada and Mexico, both major pork trading partners for the U.S.

Global Beef Market Overview

Major world beef production was significantly impacted by the global recession in 2009-2010, dropping from highs in 2007-2008, and remained relatively flat through 2013. However, projected 2014 production of 58.6 million metric tons indicates significant recovery and may exceed the previous peak in 2007 (Figure 3). Global beef exports have, however, continued to expand despite the lack of growth in total beef production (Figure 4). Major world beef exports grew slowly from 2005 then pulled back to a recessionary low of 7.5 million metric tons in 2009 before increasing more rapidly to a 2013 total of 9.2 million metric tons. The projected 2014 major world beef export total of 9.5 million metric tons represents a 30 percent increase in global beef exports in the past decade.

Major Beef Producing and Consuming Countries

The U.S. is the largest beef producing country in the world accounting for 20 percent of major world beef production in 2013 (Table 3). The next three major beef-producing countries are Brazil (17 percent); the European Union (13 percent) and China (10 percent). Together the top four beef-producing countries represented 59 percent of major world beef production in 2013. Other top ten beef-producing countries include India, Argentina, Australia, Mexico, Pakistan and Russia.

Most major beef-producing countries are also major beef consuming countries. Thus, the top four beef producing nations – the U.S., Brazil, the European Union and China – are also

the top four beef consuming nations (Table 3). Most other major beef-producing nations are also major beef consuming nations, though the rank among the top ten changes somewhat. However, Australia is an exception. Australia ranks as the seventh largest beef-producing country but not among the top ten beef consuming nations due to the fact that Australia exported 68 percent of total beef production in 2013. Alternatively, Japan is not a major beef producer but ranks as the number ten beef consuming nation. In 2013, Japan imported 50 percent of total beef consumption.

Major Beef Exporting and Importing Countries

Brazil, India and Australia are the three largest beef exporting nations with roughly equal shares of 2013 global exports of 20 percent, 19 percent and 17 percent, respectively (Table 4). The U.S. exported 13 percent of major world beef exports in 2013, along with New Zealand at 6 percent of the global total. These five countries represented 75 percent of major world beef exports in 2013. Remaining countries among top ten beef exporters include Uruguay, Canada, Paraguay, the European Union and Belarus. For several of these smaller beef exporters including Uruguay, Canada, and Paraguay; along with Australia and New Zealand, the majority of beef production is exported and these countries rely heavily on international trade in beef.

Russia and the U.S. are the two largest beef importing nations, with Russia being slightly larger in recent years. In 2013, Russia and the U.S. each accounted for 14 percent of major world beef exports and, along with Japan's 10 percent import share, the top three beef importers represented 38 percent of total beef imports. Other top ten beef-importing countries include Hong Kong, China, the European Union, South Korea, Venezuela, Canada and Chile. Small amounts of beef are imported by many countries with 28 percent of 2013 beef imports going to countries other than the top ten.

North American Beef Markets

Beef markets in North America continue to integrate with diverse flows of beef and cattle between the NAFTA partners. Canada and Mexico are the second and third largest destinations for U.S. beef exports and are the second and fourth largest sources of U.S. beef

imports. Canada accounted for 18 percent of 2013 U.S. beef exports. Those imports of U.S. beef represented 87 percent of total Canadian beef imports in 2013. Canadian exports of beef to the U.S. represented 24 percent of 2013 U.S. beef imports and accounted for 73 percent of total Canadian beef exports. U.S. beef exports to Mexico represented 16 percent of 2013 U.S. beef exports and accounted for 79 percent of total Mexican beef imports.

The latest dynamic in the North American beef market has been the growth in feedlot production in Mexico and the emergence of Mexico as a significant and growing world beef exporter. Mexican beef exports increased by four-fold from 2008 to 2012 before dropping back slightly in 2013 due to loss of the Russian market over ractopamine use. Rapid growth in federally inspected processing facilities in Mexico and adoption of boxed beef technology in recent years has significantly enhanced beef value potential in Mexico and made exporting feasible. In 2013, Mexico beef exports to the U.S. represented 11 percent of total U.S. beef imports and accounted for 81 percent of Mexican beef exports.

Canada and Mexico both supply cattle to the U.S. market. Cattle imports have averaged about 2.1 million head per year for the past decade, with Mexico supplying just over a million head and Canada averaging just less than one million head per year. Canada exported 1.04 million head of cattle to the U.S. in 2013, consisting of 34 percent feeder cattle entering feedlots with the remainder being fed cattle along with cull cows and bulls going directly to slaughter. After increasing due to drought liquidation in 2011 and 2012, Mexican cattle imports dropped to 989,000 head in 2013. Most Mexican cattle are lightweight and move into stocker programs in the U.S., though some have moved directly into feedlots as lightweight placements since 2011.

After a lengthy period of herd liquidation, exacerbated by drought since 2011, the U.S. beef herd is currently at a 60-year low. Cattle numbers are also reduced in Canada and Mexico. The resulting tight cattle supplies and reduced beef production have resulted in record high cattle and beef prices in the U.S. which are expected to persist for several years. High beef prices are expected to reduce beef exports and increase beef imports in 2014 and beyond.

Trends and Issues in Global Beef Markets

Much of the recent growth in beef trade has been increased beef imports in China and Hong Kong. China has moved from being an insignificant beef importer in 2011 to the fifth largest global beef importer in 2013. China has been importing growing quantities of beef from several countries, especially Australia and New Zealand. Hong Kong beef imports have likewise increased by nearly 4 times since 2011 making Hong Kong the fourth largest beef importing country. Much of the Hong Kong beef imports are believed to be transshipped into China.

India has emerged rapidly in recent years as a major beef producer, consumer and exporter. Much of the beef production in India is water buffalo, known as carabeef. India is currently the second largest beef exporter and may move into the top spot, ahead of Brazil, if current growth persists another year or two. Brazil beef exports, which declined from 2007 to 2011 due to strong domestic market growth and the global recession, have resumed growing. Australia has been experiencing a severe drought that has led to a temporary surge in beef exports and is expected to be followed by several years of reduced beef exports as the industry rebuilds.

Disease issues and other market access issues continue to shape and limit global beef markets. The world is still divided by Foot and Mouth disease (FMD) into FMD-free and FMD-endemic regions with respect to both cattle and beef trade. In the U.S., recognition of FMD-free regions in Brazil and Argentina remains controversial.

The beta agonist products ractopamine and zilpaterol will likely be bigger international beef trade issues in the future. Russia is currently closed to U.S. beef and to other countries using beta agonists. The U.S. currently does not have direct access to China for beef but the issue will loom larger as the U.S. presses for opening the Chinese market to U.S. beef. Reintroduction of zilpaterol into the U.S. market is already controversial and it is not clear if a portion of the beef industry, like pork, will be beta agonist free to enhance international market access.

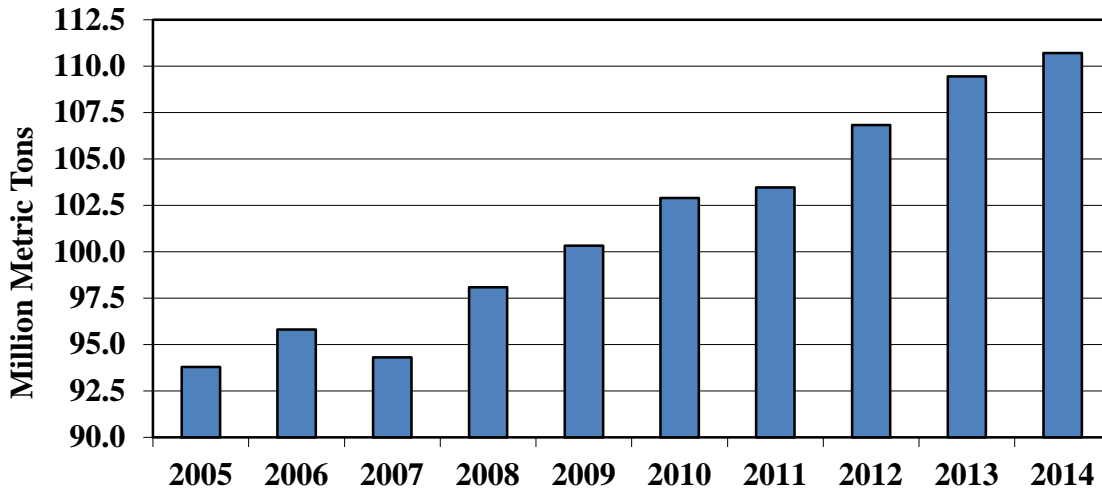
The U.S. mandatory Country of Origin Labeling (COOL) law remains a major source of contention among the NAFTA countries. Depending on WTO rulings, the law may lead to trade disruptions and retaliatory actions despite the highly integrated and mutually beneficial beef trade relationships between the U.S., Canada and Mexico.

Summary

Global markets for pork and beef continue to grow with considerable promise and opportunity in coming years. A growing global population and increased incomes in emerging economies is positive for growing global food demand and particularly favorable for growing protein demand. China is poised to play a particularly important role in global trade in pork and beef. Chinese imports of both pork and beef have increased sharply in the past two to four years. The sheer size of the Chinese market is such that even a small increase in consumption of pork or beef has huge implications on global markets.

Challenges remain, as well, for global pork and beef markets. Disease issues are a continuing threat for both pork and beef markets with potential for sudden market disruption and volatility. The politics of market access also raise the uncertainty and potential volatility of international pork and beef markets. Geopolitical turmoil, policies such as Country of Origin Labeling and use of technologies such as beta agonists and their acceptance or not by various countries all affect market access and trade flows in international pork and beef markets.

**Figure 1. Major World Pork Production,
USDA-FAS**



**Figure 2. Major World Pork Exports,
USDA-FAS**

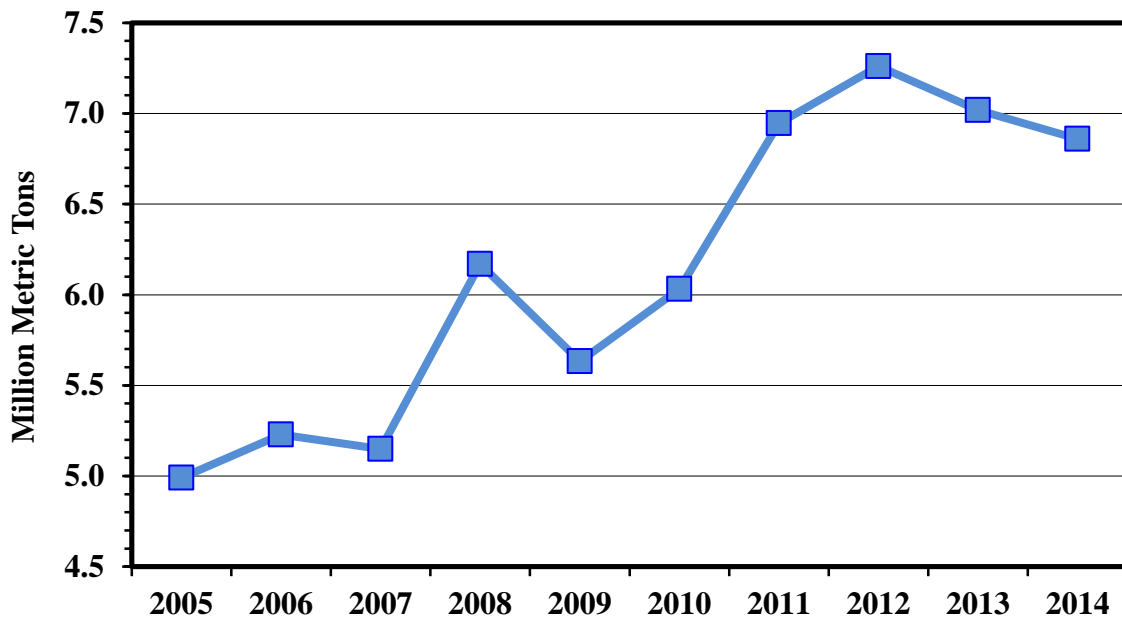


Table 1. Top Ten Pork-Producing and Consuming Countries, 2013.*

Production			Consumption		
Rank	Country	1,000 MT	Rank	Country	1,000 MT
1	China	55,620	1	China	56,096
2	European Union	22,450	2	European Union	20,173
3	United States	10,530	3	United States	8,785
4	Brazil	3,280	4	Russia	3,267
5	Russia	2,400	5	Brazil	2,696
6	Vietnam	2,220	6	Japan	2,549
7	Canada	1,820	7	Vietnam	2,205
8	Philippines	1,350	8	Mexico	1,953
9	Japan	1,309	9	South Korea	1,628
10	Mexico	1,281	10	Philippines	1,521

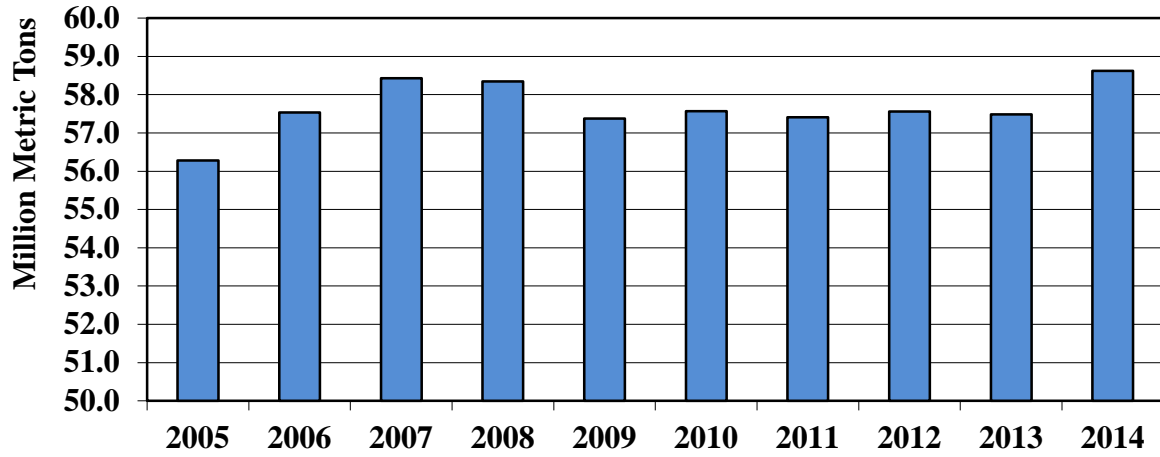
*USDA-FAS MT = Metric Tons (2204.6 lbs.)

Table 2. Top Ten Pork-Exporting and Importing Countries, 2013.*

Exports			Imports		
Rank	Country	1,000 MT	Rank	Country	1,000 MT
1	United States	2,264	1	Japan	1,223
2	European Union	2,232	2	Russia	868
3	Canada	1,246	3	Mexico	783
4	Brazil	585	4	China	770
5	China	244	5	Hong Kong	399
6	Chile	164	6	United States	390
7	Mexico	111	7	South Korea	388
8	Belarus	74	8	Canada	221
9	Australia	36	9	Ukraine	204
10	Vietnam	25	10	Australia	183

*USDA-FAS MT = Metric Tons (2204.6 lbs.)

**Figure 3. Major World Beef Production,
USDA-FAS**



**Figure 4. Major World Beef Exports,
USDA-FAS**

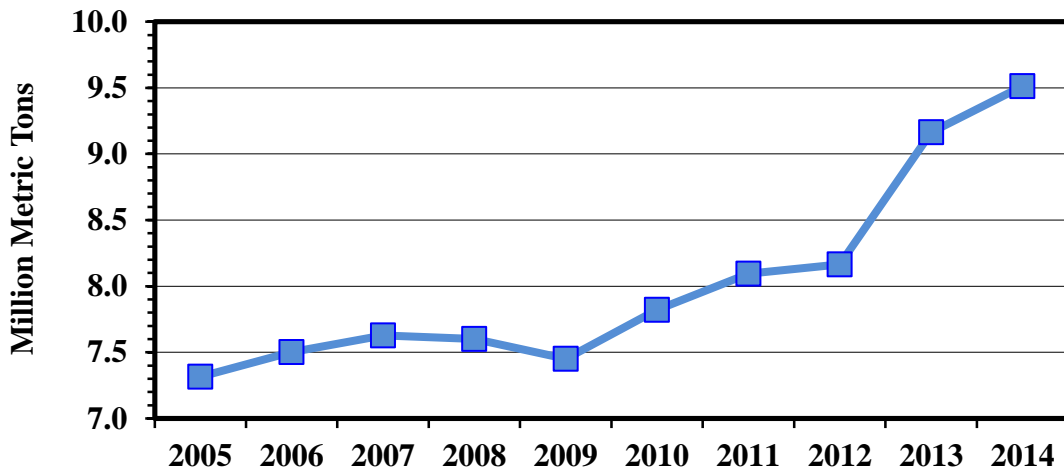


Table 3. Top Ten Beef-Producing and Consuming Countries, 2013.*

Production			Consumption		
Rank	Country	1,000 MT	Rank	Country	1,000 MT
1	United States	11,757	1	United States	11,617
2	Brazil	9,900	2	Brazil	7,885
3	European Union	7,470	3	European Union	7,602
4	China	5,637	4	China	5,959
5	India	3,850	5	Argentina	2,664
6	Argentina	2,850	6	Russia	2,389
7	Australia	2,359	7	India	2,085
8	Mexico	1,808	8	Mexico	1,874
9	Pakistan	1,630	9	Pakistan	1,628
10	Russia	1,370	10	Japan	1,521

*USDA-FAS MT = Metric Tons (2204.6 lbs.)

Table 4. Top Ten Beef-Exporting and Importing Countries, 2013.*

Exports			Imports		
Rank	Country	1,000 MT	Rank	Country	1,000 MT
1	Brazil	1,849	1	Russia	1,031
2	India	1,765	2	United States	1,021
3	Australia	1,593	3	Japan	760
4	United States	1,172	4	Hong Kong	473
5	New Zealand	529	5	China	412
6	Uruguay	338	6	European Union	376
7	Canada	333	7	South Korea	375
8	Paraguay	326	8	Venezuela	325
9	European Union	244	9	Canada	296
10	Belarus	220	10	Chile	245

*USDA-FAS MT = Metric Tons (2204.6 lbs.)

USDA-FAS, "Livestock and Poultry: World Markets and Trade". United States Department of Agriculture, Foreign Agricultural Service, April 2014