

In 2010, the United States exported more than \$4 billion worth of beef to its trading partners around the world. Export sales accounted for approximately 9 percent of total U.S. beef production. Developing, regaining, and expanding access to global trading partners is crucial to expanding demand for U.S. beef. China represents an important U.S. trading partner for a number of reasons including population growth, income growth, shifting consumer preferences, and changing political and regulatory environments.

This publication provides an overview of the Chinese beef demand, shifting consumer preferences, and the opportunities within future beef demand growth.

Beef Demand in China

Chinese domestic beef consumption has increased substantially since 1980, although beef consumption growth remains low compared to pork and poultry consumption growth over the same period. Per capita beef consumption is small compared to pork and poultry consumption but growing.

USDA domestic data indicate per capita beef consumption in China was 9 pounds (carcass weight) in 2010. Compared to countries that consume the most beef per capita, China's consumption is small. For example, 2010 U.S. per capita beef consumption was 85 pounds (carcass weight) (USDA - FAO, 2010).

In total beef consumption, China ranks fourth globally behind the United States, the European Union, and Brazil (USDA - FAO, 2010).

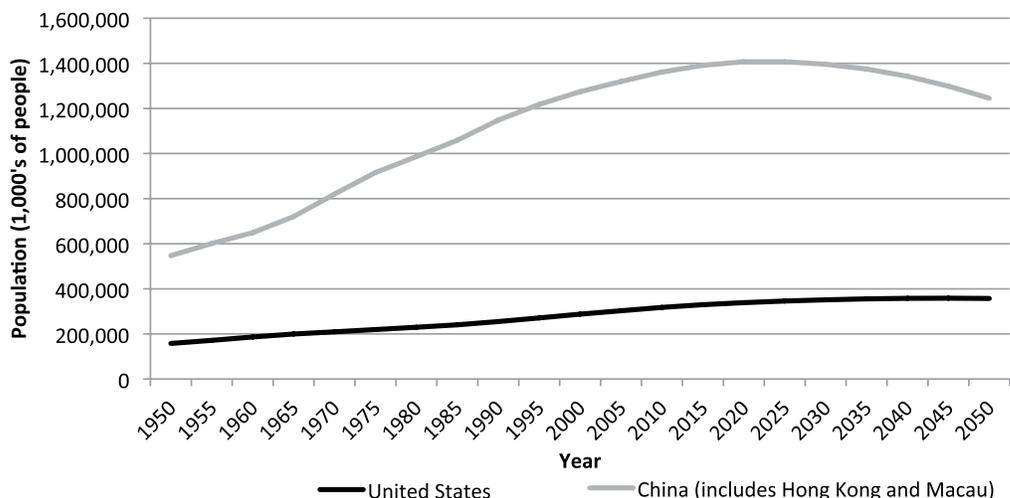
With a population of 1.3 billion, a relatively small change in per capita consumption in China has an enormous impact on aggregate beef consumption. A one percent increase in per capita beef consumption would increase total beef consumption in China by 63,339 tons (USDA - FAO, 2010). In 2010, U.S. beef and

veal exports totaled 138,552 tons (carcass weight) to its fourth largest export market, South Korea.

In terms of beef quality, many differences exist between Chinese and U.S. consumer preferences. Chinese consumers perceive beef very differently than U.S. consumers. This difference has implications regarding quality attributes of beef demanded. Chinese beef consumers place an emphasis on the following attributes¹:

- **Freshness.** Chinese consumers prefer to purchase beef fresh rather than chilled or frozen. Since refrigeration is of limited availability, beef is often slaughtered, traded, prepared, and cooked in a very short time span, often all in the same day.
- **Cleanliness/Safety.** Food safety is a major concern for Chinese consumers. Since enforcement of quality assurance programs are not priorities in open-air markets where the majority of beef in China is sold, consumers are left to self-assess safety. Therefore, they place high values on sensory attributes such as smell and visual appearance.
- **Convenience/preparation methods.** Most Chinese consumers are unfamiliar with alternative beef preparation methods. The most popular preparation method is wet cooking such as boiling in a wok or hot pot. Roasting and grilling are used much less frequently. The knowledge gap in beef preparation methods is a barrier for expanding retail demand.

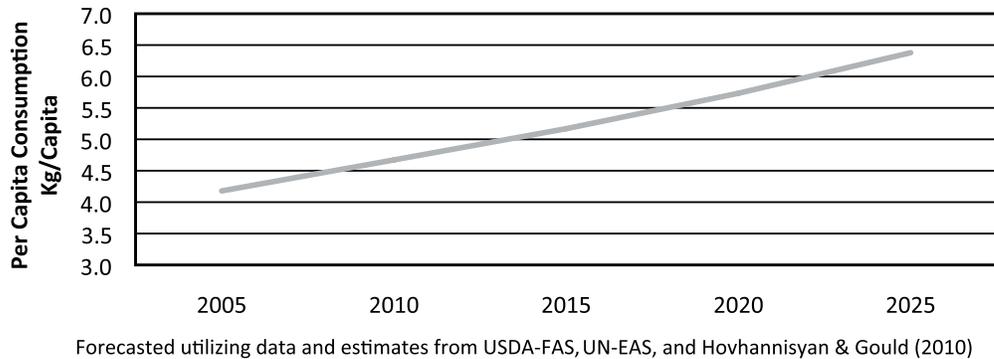
Figure 1. U.S.-Chinese population comparison and projections, 1950-2050.



Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision, <http://esa.un.org/unpp>

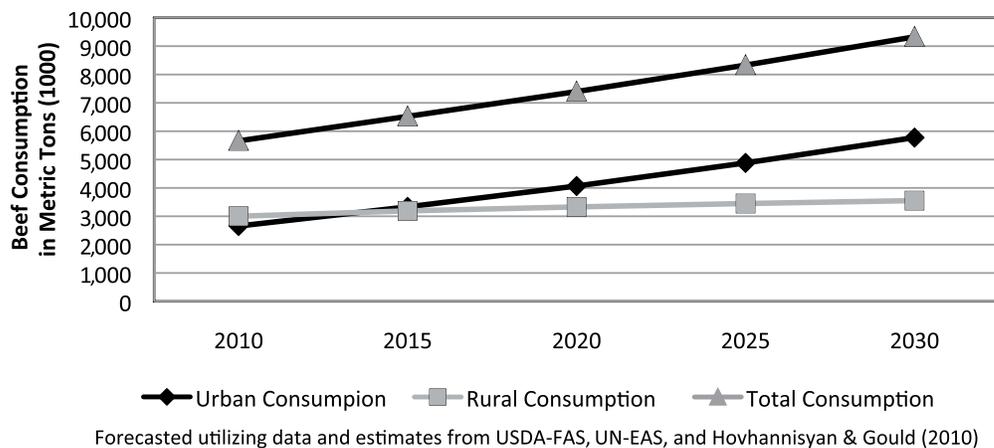
- Fat/Tenderness.** Tenderness tends to be much less important to Chinese consumers than to U.S. consumers. Most Chinese consumers have not been exposed to western-style grain-fed beef and therefore do not deem tenderness/marbling as a necessary attribute.

Figure 2. Projected per capita beef consumption in China.



- Price.** Chinese consumers are very price sensitive. The absolute and relative price of beef compared to other proteins is likely the largest impediment to growth in beef consumption.
- Internal Organs.** Chinese consumers have a strong preference for internal organs and variety meats. This preference could lead to further export opportunities for suppliers, especially if the bovine spongiform encephalopathy (BSE) bans are lifted.
- Other considerations.** Consumption is at its highest in the winter months and bottoms out in the summer. The traditional Chinese view of beef as a “hot” food, the lack of refrigeration, and price patterns are all cited as explanations for the seasonality in beef consumption. Beef is thought to increase strength and stamina and therefore is often considered a man’s food and not as a family meal. Consumption of beef by women and children is sometimes encouraged by those who view beef as a healthier alternative to other protein options.

Figure 3. Projected rural, urban, and total beef consumption in China.



Traditionally, Chinese per capita beef consumption has been low and the beef consumed is of poor quality. A number of factors indicate that Chinese per capita beef consumption is poised to increase. Increases in Chinese beef consumption will have implications for global beef trading patterns.

Shifting Preferences

China is in the midst of an ongoing economic reform. In the late 1970s, the People’s Republic of China introduced a number of changes to move away from a controlled economy to a market-based economy. Since China’s economic reform began, the country reported more than 25 years with greater than 9.5 percent economic growth (U.S. DOS, 2009). Increased living standards, reduced poverty, increased productivity, and better utilization and allocation of resources coincide with the sustained economic growth.

In 1970, just before economic reform was beginning to take place in China, annual per capita income was about \$148. Since the economic reform began in 1979, China’s annual per capita income has increased to more than ten times the previous level (USDA-ERS, 2009).

Urbanization continues to play a large role in shaping Chinese beef consumption habits. From 1997 to 2007, the proportion of urban Chinese residents increased from 32 to 45 percent of the total population according to the 2008 Chinese Statistical Yearbook. Because urban and rural Chinese residents consume

beef differently, urbanization has important implications. Urban residents tend to have more disposable income; seek more variety in food choices; eat out more often; and have different social and cultural attitudes, which makes them larger beef consumers.

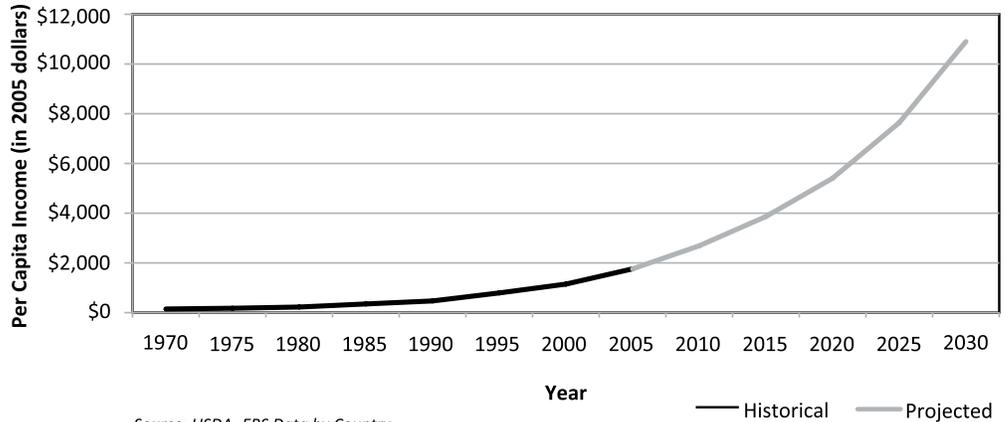
Increased income levels have led consumers away from a plant-based protein diet toward an animal-based protein diet. Food-away-from-home consumption continues to rise, driven by higher income levels and the adoption of western cultures and traditions. The trend of consuming more meats and fewer grains in China is amplified when consumers dine out. Chinese consumers are also more likely to consume higher quality beef when consuming beef outside the home, presumably due to food service establishments having better access to high-quality beef and refrigeration. Increases in income levels and food service establishments support increased beef consumption in China.

Western-style restaurants are becoming prominent in China. McDonald's has nearly 1,100 outlets in China and plans to boost that number to 2,000 within the next three years. Yum! Brands Inc., which owns KFC and Pizza Hut, among other chains, is the largest western-style fast-food group in China. Fast food dining is quickly being adopted into Chinese

culture. The next generation of Chinese consumers is expected to have a higher demand for meat and western-style convenience, packaging, and branding.

In a similar fashion, foreign retail outlets are expanding throughout China. As of February 2010, Walmart had 282 retail units in China (Wal-Mart Inc, 2010). As income levels increase and cultural preferences change, it is expected that Chinese shoppers will turn to supermarkets to fulfill their desires for safe, quality assured, meat products. Walmart is capitalizing on the need for increased food safety by framing its Chinese stores as clean, safe alternatives to traditional open-air markets. To the extent that Chinese shoppers continue to move toward safety assured type products, and can afford to purchase them, modern supermarkets are in a position to further their rapid expansion. Other large retailers that have a presence in China include French owned Carrefour, German owned Metro, and the United Kingdom's Tesco.

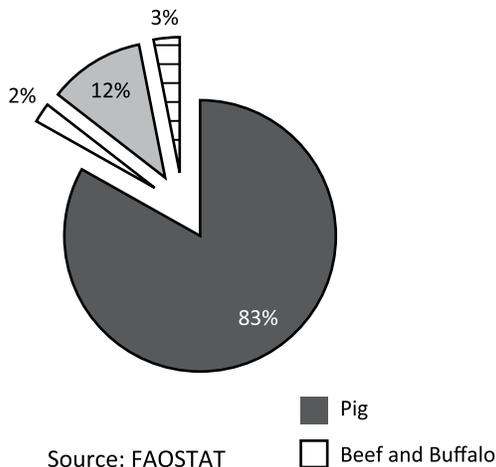
Figure 4. Chinese projected per capita income.



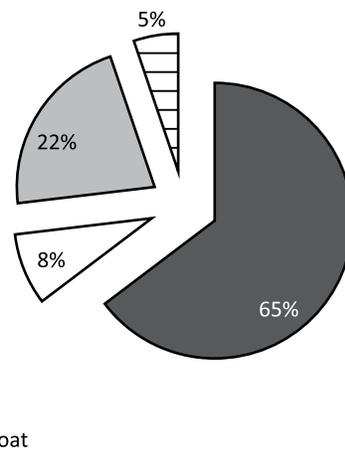
Source: USDA -ERS Data by Country

Figure 5. Meat consumption percentages in China, 1980 and 2008.

Meat Shares 1980



Meat Shares 2008



Source: FAOSTAT

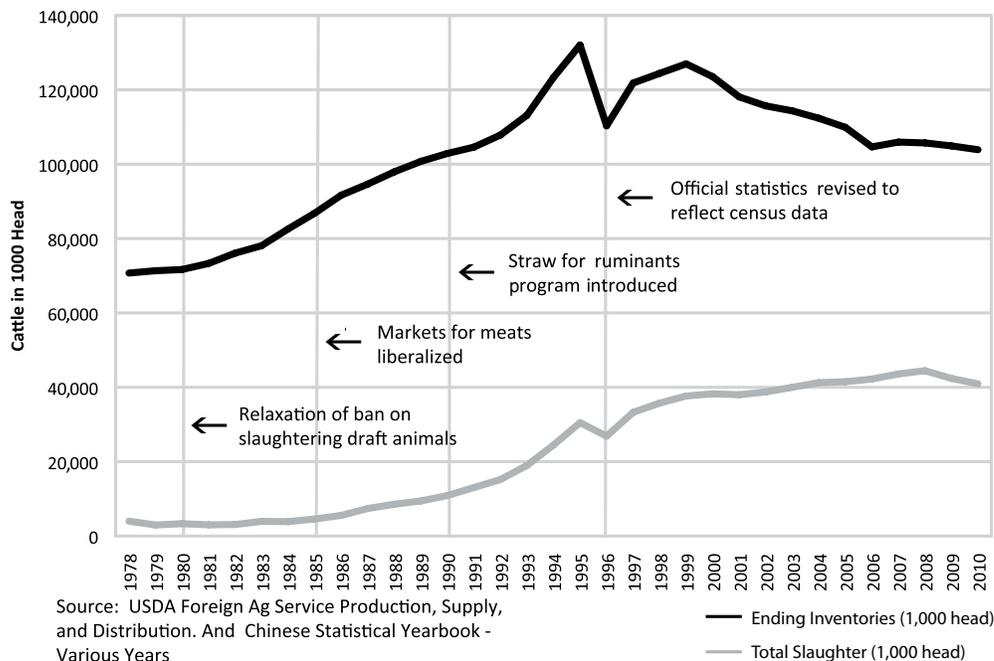
Meeting Future Demand

Until recently, cattle production for beef consumption was a rarity in China. Farmers typically owned one to three cows of native origin, which were used exclusively for draft purposes. Today, the majority of beef ownership in China remains tied to draft use. The bulk of draft cattle are traded or sold as cull cattle to other unspecialized households for “backyard” slaughter. Although draft cattle production is still dominant, some important changes in the past three decades have led to a shift toward beef cattle production. Contrasting theories prevail as to whether the enormous increase in beef production in China is in response to increased beef demand or a result of policy changes that have made producing beef more viable and profitable for producers due to subsidized feed sources. Nonetheless, the disaggregated nature of small-scale producers that make up Chinese beef production will make it increasingly difficult for China to be a self-sufficient beef producer (Longworth et al. 2001).

Opportunities to trade beef with China will rely heavily on whether China opts to promote increased domestic production or to allow for increased imports. Since small-scale backyard producers characterize beef production in China, the migration away from rural areas into the cities will have a negative impact on beef production. According to 2008 United Nation’s population projections, rural China has already begun contracting. Total beef cattle inventories began declining around the same time. If China is unable to develop a more efficient, specialized cattle production system, they will almost certainly have to import their beef needs.

The relatively low income per capita will prevent the majority of Chinese from consuming western-style grain-fed beef. Instead, China will most likely look to low-cost producers for imported beef, which should benefit Brazil, Australia, and India. History suggests that politics will play a large role in determining who

Figure 6. Chinese beef production.



China will trade with. As evidence of this, in June 2010, Chinese officials announced they would lift a ban on imports of Canadian boneless beef derived from animals under 30 months of age.

While Canada and the United States share the same international risk status related to BSE (*controlled risk* according to the World Organization for Animal Health), the Chinese continue to enforce the ban of U.S. beef. Currently, there are talks between the United States and China negotiating this ban. Increased U.S. imports into Hong Kong and Vietnam, however, indicate that it is possible some U.S. beef may have already found its way to mainland China despite the ban on imports.

Trade Barriers

A major issue regarding U.S. agriculture trade with China is trade barriers including tariff schedules and nontariff food trade barriers. China’s accession to the World Trade Organization (WTO) was conditional on China agreeing to significantly decrease tariffs specifically concerning agricultural goods. While some tariffs still exist, albeit at lower levels, a significant impediment to trade has been nontariff barriers.

When China was signed into the WTO, they agreed to adhere to the standardized import regulations as well as food safety standards set by the Sanitary and Phytosanitary Standards Commission and animal welfare and disease control standards implemented by the Codex

Alimentarius Commission. China has reacted hastily to many of the disease outbreaks experienced around the world in the last 10 years and has often closed borders regardless of scientific confirmations. In other cases, China's regulations and import certifications have been so strict that the cost to import has outweighed the benefit. At the urging of the WTO and trade partners, China has taken steps to rectify the inconsistencies in import bans and regulations with several recent sweeping reforms such as the Food Safety Law in 2009 and tariff standardizations in the early 2000s (GAIN, 2009).

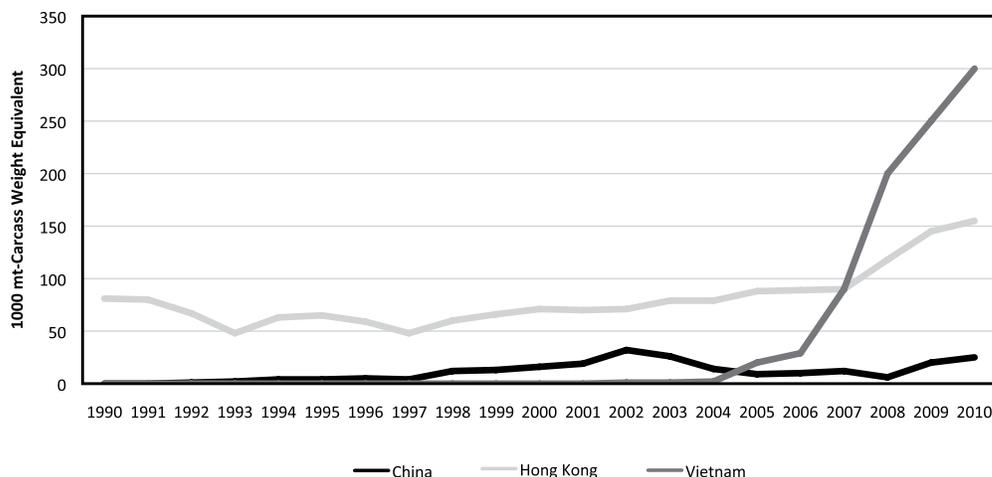
Exporters need to be aware of the risk and understand that nontariff trade barriers are prevalent and provide a major obstacle to establishing reliable trade relations. A few of the major impediments to trade are:

- Currency exchange rate — The value of China's currency, the RMB (Renminbi), is generally held at a fixed rate set by the state, which makes exporting to China more expensive.
- Difficulty maneuvering Chinese laws and regulations and possible data inefficiencies — The lack of transparency makes exporting products into China challenging.
- Agriculture policy and protectionism — This protectionism tends to translate into trade barriers that can restrict U.S. exports to China. For the U.S. beef industry, this is important as it will be a factor in the hopeful lifting of the U.S. ban.

Conclusions

Since China initiated economic reforms, the country quickly became a powerful world trading entity. In terms of agricultural trade, China strives to be self-sufficient in meat production. Yet, there is increasing evidence of challenges in meeting this goal. The country has traditionally met domestic meat demand by increasing the production of lower-cost meat proteins such as poultry and pork. Future food trade in China will be determined by whether the government decides to promote domestic production or allow for increased imports. As China's population continues to migrate to urban areas, the burden

Figure 7. Total imports of beef and veal for China, Hong Kong, and Vietnam 1990 – 2010.



Source: USDA-FAS, PSD Online

- **December 1979** – “Decision on reform of the Economic Structure.” With the suggestions from President Nixon, Chairman Deng Xiaoping sets the course to “establish a vigorous socialist structure of a specifically Chinese character.”
- **January 1980** – The United States grants China “Most Favored Nation” status. This agreement was significant in influencing China’s admission to the WTO.
- **1986** – China begins negotiations to join the World Trade Organization.
- **1987** – Yum! Brands, which owns KFC and Pizza Hut, opens first western-style fast-food restaurant in mainland China.
- **1990** – Straw for ruminants program. Chinese officials hoped that by using straw-based feed they could encourage domestic beef production.
- **Nov 10, 2001** – China’s admission to the WTO becomes formally approved.
- **Dec 23, 2003** – BSE confirmed in the USA, China bans all U.S. beef product.
- **Feb 4, 2004** – Avian flu confirmed in the United States and China. Each country bans poultry imports.
- **June 27, 2006** – China agrees to open U.S. boneless beef in Hong Kong only.
- **July 7, 2007** – China bans U.S. ractopamine feed additive in pork.
- **2008** – China becomes the United States’ second largest trade partner.
- **June 26, 2010** – China agrees to open Canadian boneless beef into mainland China. Canada is the first nation affected by BSE to regain market access.

of food production will be placed on the shrinking rural population. Much investment in infrastructure, technology, and research and development will be necessary if China wishes to move from unspecialized small-scale farms to an efficient and large-scale system capable of feeding the increasing urban population.

One certainty is that consumer appetite for beef is growing. Traditionally, cattle were used for draft purposes, however, consumer preferences and demands are supporting production of beef cattle. Chinese consumers perceive quality characteristics of beef quite differently than western consumers, but as incomes continue to increase, consumers tend to place more emphasis on food safety, product branding, packaging, and quality. The largest barrier to increased beef consumption in China continues to be beef prices relative to other meats.

Based on projected income and GDP growth, as well as increasing urbanization, China is expected to increase beef consumption in the next 20 years (USDA-FAS, UN-EAS and Hovhannisyanyan & Gould, 2010). Although insufficient data and resources make forecasting the quantity of future beef demand and per capita consumption challenging, it is clear that the trend of increasing per capita beef consumption should continue. While increased domestic production or trade with countries providing low-cost, and lower quality beef will meet most of the expected increase in beef consumption in China, a small but lucrative segment of the Chinese population has indicated a preference for western-style grain-fed beef. If access to the Chinese market can be achieved, the opportunities for U.S. producers could be substantial.

Endnotes

- 1 Quality attributes found in consumer surveys by: Liu et al., 2009; Peng et al., 2005; Longworth, Brown & Waldron, 2001; van Gelder, van Gelder, & Dinghuan, 1998)

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