An Overview of World Markets for North American Cattle and Beef

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Introduction

Economic and political uncertainty have increased in the rest of the world, particularly in Asia and Central Europe, leading to market instability, falling currency values, and weaker demand for many agricultural products. Agricultural markets have gone from relatively tight supply/demand conditions to weak demand and ample supplies, in just three crop years. Mexico and Canada have been actively pursuing the development of trade agreements, especially in the Western Hemisphere.

The formation of preferential trading arrangements, such as MERCOSUR (South American Common Market) in 1991 and North American Free Trade Agreement (NAFTA) in 1994 has accelerated. Mexico initiated trade talks with the European Union (EU), Central America, and Indonesia. MERCOSUR and the EU are discussing freer trade, while Chile and Bolivia have become associate members of MERCOSUR. Chile also has negotiated a free trade agreement with Mexico. Increasingly, economic integration will lead to more interdependence among countries and to greater risk for some producers.

Live cattle and beef are important components to farm and non-farm incomes in North America. Cow-calf production, feedlots, meat packing and further processing, feed grain production and mixed feeds, veterinary services, and other supplies and services to the beef producer all have an economic impact on the state and nation. For instance, in Texas, beef cattle industry accounts for about 38 percent of all Texas farm cash receipts.

Building upon the successes of NAFTA, the United States initiated a plan to begin talks to form a Free Trade Area of the Americas (FTAA) in 1992. Trade liberalization efforts in the U.S. have since stalled, however, due to increasing public concern and uncertainty about the effects of import competition, including employment and income losses, environmental degradation, and the safety of imported foods.

This paper examines world and North American cattle and beef production, consumption and trade. The competitive position of beef in the major markets and per capita beef consumption in North America are analyzed. Constraints to trade are identified and discussed.

The World Market for Cattle

Since 1985, world cattle inventories have declined 4 percent, from 1.08 billion head to 1.04 billion head (figure 1). During this time, beef cattle production increased from 272 million head to 286 million head (5

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percent), and beef cattle slaughter rose from 216 million head to 234 million head (8 percent), indicating a slight increase in the consumption of beef and beef products in some countries.

World cattle trade increased by 90 percent. For instance, 5.6 million head of cattle were traded in 1985, compared to 10.6 million head traded in 1997. Reasons for increased trade are lower tariffs, fewer non-tariff barriers, and increased compliance with animal health regulations by some cattle exporting countries.

**Trends in North American Cattle**

The North American cattle herd has fluctuated around 140 million head in recent years (figure 2). The United States, with 99.5 million head in 1998, maintains the largest herd. U.S. herd size has varied from a high of 109.6 million head in 1985 to a low of 95.8 million head in 1990. Mexico's cattle herd, about one-quarter of U.S. herd size, has been estimated at 25.6 million head, but has ranged from 29.8 million head in 1991 to 35.4 million in 1988. Some sources currently place the Mexican herd near 22 million head, due mostly to draw down in cattle inventory during drought and poor economic conditions which have retarded herd rebuilding efforts during much of the 1990s. Canada has experienced an increase in cattle inventories, from 10.0 million head in the mid-1980s to 13.1 million head in 1998. Increased herd size in Canada is likely due to the expansion of meat packing capacity in Alberta and greater demand for meats in North America and other markets.

North American cattle production has trended similarly to inventories, with slight fluctuations around 53.5 million head (figure 3). Cattle production has remained relatively stable for the U.S. and Canada, with the U.S. producing about 39 million head each year since 1988 and Canada between 4.8 and 5.5 million head. Mexico, the second leading cattle producer in North America, has stayed consistently around 9.5 million head from 1987 to 1994, but severe drought in northern Mexico and a peso devaluation making feed grains more expensive caused production to decrease to 8 million head by 1996.

Cattle slaughter in North America is dominated by the United States which accounts for 76 percent of the total, followed by Mexico with 17 percent, and Canada at seven percent. Cattle slaughter has experienced greater movements due to a 5.0 million head decrease which began in 1990 which was not recovered to the 50.0 million head range until 1995. The decline in cattle slaughter is the result of a decline in U.S. cattle slaughter, which fell from a high of 41 million head in 1986 to 34 million head in 1990. One-half of this decrease was recovered by 1995. The dip would have been larger if not for a record year of 10.7 million head slaughtered in Mexico in 1989. Mexican slaughter declined to 7.5 million head in 1991, but recovered to 8.5 million head in 1995. Canada has yet to return to the 4.1 million head slaughter range of the mid 1980s, but cattle slaughter has increased by 585,000 head since 1990 due to the construction of additional meat packing facilities.

Cattle trade within North America has consisted primarily of U.S.-Mexico and U.S.-Canada bilateral trade. Canada and Mexico do not trade any significant levels of cattle with each other due to geography and the fact that the United States is such a large importer. The United States imported 2.1 million head
of cattle in 1997 valued at $1.1 billion. About 1.4 million head valued at $943 million originated in Canada, 656,000 head valued at $177 million were imported from Mexico (figures 4 and 5). Most imported cattle from Mexico are feeder calves, while most cattle from Canada are for slaughter. U.S. imports represent about 20 percent of world cattle imports, as well as over 98 percent of cattle exports for both Canada and Mexico. By contrast, in 1997 the U.S. exported only 235,000 head to Mexico, valued at $131 million, and just 41,000 head valued at $37 million to Canada. Thus, the U.S. has a deficit in beef cattle trade of about 1.8 million head, or $900 million with its NAFTA partners.

Due to the economic crisis in Asia and a declining exchange rate, Australia exported 8,700 head of feeder cattle to Mexico in June 1998, along with 2,100 head of beef breed heifers and 1,500 Friesian heifers. Should this trend continue, Mexico will have a mechanism for rebuilding its herd as well as continue to increase exports to the U.S. market. As a result, the U.S. producers may face more competition in the Mexican market and could experience lower feeder cattle prices in the southwestern United States.

The World Market for Beef

Since 1985, world beef production and consumption have ranged between 46.7 million metric tons (mmt) and 50.6 mmt (figure 6). These fluctuations are relatively stable when compared to the large changes in fish, pork and especially poultry production. Beef will continue to be an important source of animal protein to consumers throughout much of the world. In 1991, annual world beef production peaked at 50 mmt. In 1993, production fell to 47.7 mmt, but has since risen to 49.4 mmt.

Over the same eighteen year period, global beef consumption ranged between 42.4 mmt and 49.3 mmt. The peak in world beef consumption also occurred in 1991 at 49.3 mmt. By 1993, consumption had fallen to 46.5 mmt, but has since risen to 48.1 mmt.

World beef trade reveals imports ranging between 2.6 tmt and 4.6 tmt, while exports range between 3.3 and 5.7 tmt. World imports of beef peaked in 1990 while world exports peaked in 1989. There are various reasons why world exports do not equal world imports, such as differences in data collection among countries and shrinkage in shipments from the export origin to the final import destination. Statistical errors also cause peak years for imports and exports to be different.

Trends in the North American Beef Market

North America was the largest producer of beef in 1997 with 14.6 mmt (figure 7). Of that total, the United States led with 11.7 mmt (80 percent), followed by Mexico with 1.8 mmt (12 percent) and Canada with 1.0 mmt (7 percent). This order has existed since 1985, with a growing gap between Mexico and Canada. Beef production North America peaked in 1997. In 1991, the peak year in world beef production, North America was actually at its lowest level since 1981, 13.0 mmt. This was due to a drop in production in Mexico of 210,000 mt and a small decrease in Canada, both of which have increased beef output since then.
North America was also the largest consumer of beef in 1997 with 14.7 mmt (figure 8). Of that total, the United States led with 11.7 mmt (80 percent), followed by Mexico with 1.9 mmt (13 percent) and Canada with 1.0 mmt (7 percent). Beef consumption in 1997 was the second highest amount during the time period, slightly below 1996. The major reason these consumption figures are close to production is that North American countries typically hold a low level of stocks. For instance, U.S. stocks have ranged between 1.4 percent and 2.3 percent of production.

North American countries have typically been net beef importers, but Canada became a net exporter in 1996. U.S. exports have ranged from a low of 151,000 metric tons in 1985 to a high of 969,000 mt in 1997, while imports have ranged from about 940,000 mt, first in 1985 and again in 1996, to a high of 1,091,000 mt in 1991. Canadian exports have ranged from a low of 86,000 mt in 1988 to a high of 360,000 mt in 1997, with imports of beef more than doubling from 112,000 mt in 1985 to 250,000 mt in 1997. Further, Mexican imports of beef have increased from 1,000 mt in 1980 to 150,000 mt in 1997, while beef exports have never risen above 5,000 mt.

The United States is the leading supplier of beef to Mexico. Canada is the leading supplier of beef to the U.S. market and the United States is the leading supplier of beef to Canada. Figure 9 reveals that U.S.-Mexico beef trade has grown primarily because the United States has shipped increasing quantities of beef to Mexico. The exception to this trend occurred in 1995 as a result of the peso devaluation and economic crisis. Since then, Mexican imports from the United States have set records in volume, 107,000 metric tons and value, $300 million. Should this trend continue, 1998 U.S. beef exports to Mexico will surpass 1997 levels.

U.S. beef imports from Canada have grown annually since 1990, whereas U.S. exports to Canada peaked in 1991 and have since averaged 93,000 metric tons and $350 million per year (figure 10). The average value per pound of beef exported from the United States to Canada is about $1.50 while the average value of beef imported from Canada is less than $1.00. Therefore, Canada is a market for higher valued U.S. beef cuts while, the U.S. is a market for lower valued beef cuts from Canada.

World Beef Import Markets

Japan is the largest export market for U.S. beef, buying about $1.4 billion in 1997. This represents $500 million more than the next three largest export markets for U.S. beef combined. The primary competitor for U.S. beef in Japan and elsewhere is Australia; New Zealand is also a major competitor to U.S. beef in foreign markets. In comparing volumes, the U.S. exported 306,000 mt of beef to Japan in 1997, compared to 305,000 mt from Australia; New Zealand was third at 23,000 mt. The U.S. and Australia each captured about 47 percent of the Japanese beef import market in 1997, while New Zealand held four percent.

Even though U.S. beef is typically higher priced than Australian beef in Japan, more U.S. beef is purchased. U.S. beef is a marbled, grain-fed meat which commands a price premium in Japan and is more uniform due
Per capita beef consumption is analyzed on a retail weight equivalent. Australia relies predominantly on grass-feeding with less marbling and uniformity in cuts of meat. Therefore, U.S. beef can maintain a higher price than Australian beef due to a preference by many Japanese for a more marbled product.

The number two and three markets for U.S. beef are Mexico and Canada in volume order, with Canada slightly surpassing Mexico in value. The U.S. enjoys at least two advantages over Australia and New Zealand in the Canadian market. The first is market proximity - the U.S. is obviously much closer to Canada, and therefore should be able to ship beef at a lower cost and deliver a fresher product. Second, NAFTA has removed quota and tariff barriers to U.S. (and Mexican) beef entering Canada, while Australia and New Zealand must contend with both a quota and a tariff for quantities over a specified quota amount (tariff-rate quota-TRQ). For 1998, Canada’s TRQ is 76,409 mt, with the TRQ for Australia of 35,000 mt, 29,600 mt for New Zealand, and 11,809 mt in a most-favored nation reserve.

U.S. products dominate the Mexican market for imported beef, with a market share of 98 percent in 1997. Canada and Australia provide limited competition. In 1997, Mexico imported 141,000 mt of beef from the United States. In contrast, Mexico imported 1,291 mt of beef from Australia and 999 mt from Canada. While Canadian beef enjoys the same access to the Mexican market as U.S. beef under NAFTA, Australia does not. Further, as Mexico negotiates agreements with the EU and South American countries, competition for the Mexican market should intensify.

**Per Capita Consumption of Beef**

Per capita consumption is an important indicator of the consumer demand for beef. While the United States is the largest consumer of beef in total, it is not the largest per capita beef consumer. Uruguay, consuming a total of just 200,000 mt on a carcass weight equivalent, or 140,000 mt on a retail weight equivalent\(^2\), was actually the leading per capita consumer of beef in 1997 with 95.8 pounds/person; Argentina was second at 90.5 pounds/person (table 1). In North America, the United States consumed 67.9 pounds/person, while Canada consumed 50.9 pounds/person and Mexico consumed 30.0 pounds/person.

In the United States, per capita consumption of beef has fallen from 73.9 pounds/person in 1980 to 67.9 pounds/person in 1997, or 8 percent. The majority of this decrease occurred from 1985 to 1990. Since then, per capita consumption has stabilized at the 68 pounds. Canadian total beef consumption has followed a similar pattern, though per capita consumption continues to decrease. Mexico, however, is the only North American country to have shown an increase in per capita beef consumption since 1985. Growing per capita incomes, more two-income families, and adequate beef supplies all contributed to the increase in per capita consumption.

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\(^2\) Per capita beef consumption is analyzed on a retail weight equivalent.
Table 1. Per Capita Beef Consumption, 1985 - 1997

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<thead>
<tr>
<th></th>
<th>1985</th>
<th>1990</th>
<th>1997</th>
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<tbody>
<tr>
<td>United States</td>
<td>76.1</td>
<td>67.9</td>
<td>67.9</td>
</tr>
<tr>
<td>Mexico</td>
<td>26.4</td>
<td>32.6</td>
<td>30.0</td>
</tr>
<tr>
<td>Canada</td>
<td>72.5</td>
<td>55.5</td>
<td>50.9</td>
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</tbody>
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Source: USDA/FAS, CIA World Factbook, and World Bank
To obtain Carcass Weight Equivalents, divide by .7

Constraints to Trade

Cattle, beef, and beef by-products are widely traded throughout North America. At least three primary factors constrain the potential for trade growth and contribute to misunderstandings about trade impacts on domestic industries: economic conditions, technical barriers to trade, and trade policy actions.

É Economic Conditions

Mexico’s economic recession during 1995 resulted in lower consumer demand for meats, particularly high-quality beef, and subsequently reduced U.S. beef exports to Mexico by 60 percent. Reduced export demand, in part, contributed to declining cattle prices in the United States. At the same time, U.S. record imports of Mexican feeder cattle, slaughter cows and bulls, along with increasing supplies of competing meats, such as poultry, and greater beef supplies put downward pressure on cattle prices. From 1994-96, U.S. beef production increased five percent, while U.S. poultry output expanded 10 percent. NAFTA was perceived as the primary cause of lower prices, even though U.S. import duties on live cattle were negligible before the agreement took effect. NAFTA was also blamed for the Mexican peso devaluation. Increased producer and policy maker education about NAFTA, its provisions, and its potential impacts would help reduce trade frictions.

The United States has extended $125 million in export credit guarantees for use by Mexican cattlemen to expand their herds. To date, only limited amounts of these guarantees have been used, with high interest rates and short payback periods cited as the major impediments to credit. More flexible Mexican banking policies may be necessary for the U.S. credit guarantees to become effective tools for cattle herd expansion.

É Technical Barriers to Trade

NAFTA, along with the Uruguay Round Agreements of the General Agreement on Tariffs and Trade (URA-GATT), led to reductions in the levels of protection afforded by tariffs, import quotas, and other non-tariff trade restrictions. Access to new markets, however, has also meant that some foods and agricultural products have increasingly been subjected to technical barriers to trade (TBT). The most common form of TBTs are unnecessary animal health regulations, food safety restrictions, labeling
requirements, and quality standards. Although TBTs were in place prior to market opening trade agreements, their impacts were often not apparent because high tariffs and restrictive import quotas severely limited or impeded trade.

The World Trade Organization has noted that as “classical trade barriers—tariffs and quantitative restrictions—have come down ... attention has turned to “invisible costs” resulting from documentation requirements, procedural delays, and lack of transparency and predictability in ... government rules and regulations.” The emergence of these invisible barriers has created an overall negative trading environment.

Technical barriers to trade can be grouped into at least three main categories.

1. **Animal Health and Sanitary** regulations are implemented by most countries to protect the integrity of the food supply. Sanitary regulations are used to ensure that animal-based products such as meats, poultry, and dairy products meet or exceed specified sanitary standards. Animal health regulations are used to protect cattle herds from disease and insect infestation which originate in other countries and which could be imported. Under provisions of NAFTA, these regulations must be based upon the use of scientific evidence to be implemented as valid trade restrictions.

2. **Consumer measures** which regulate food safety and quality, including labeling, packaging, pesticide residues, nutritional content, and contamination.

3. **Trade measures** used to prevent commercial fraud including shipping and financial documentation, standards of identity and standards of measurement.

While most TBTs are designed to limit or prevent the importation of products that might contaminate domestic animal herds or plant populations, many do not have a scientific basis and are used to restrict trade in order to protect an industry from international competition. TBTs reduce the efficiency of trading firms, often causing long delays at ports while shipments are reinspected and documentation is verified, leading to higher transactions costs. Some shipments may even be rejected, resulting in the need to reroute the product or sell to a buyer of last resort, resulting in lower prices to producers. When TBTs are implemented without the support of science, they can become serious impediments to trade, slowing commerce, causing a backlog of product, and ultimately, having negative impacts on both consumers and producers.

Closer working relationships between government agencies responsible for enforcement of animal health and food safety regulations, customs brokers, freight forwarders, and producers are necessary to avoid the shipping delays and other problems discussed above. Successful examples include the eradication of screw worms, brucellosis, and the progress to date in the elimination of tuberculosis in cattle.

**Trade Policy Actions**
Several anti-dumping petitions have been filed by U.S. and Mexican producers in attempts to stem trade. These actions represent the primary political means used to restrict trade. The most recent efforts by a U.S. group, called R-CALF, is designed to reduce live cattle imports into the United States from both
Mexico and Canada. The petition claims that imported cattle are being dumped below fair market value in the United States. Mexican producers have filed similar petitions against U.S. beef being exported to Mexico.

While these claims have not resulted in anti-dumping duties being placed on live cattle or beef, they do represent irritants to trade and can impede progress toward a more integrated marketplace. Cattlemen need to understand that in most cases increases in cattle and beef products do not necessarily represent subsidies or other illegal actions of their trading partners, but simply reflect the flow of goods from a region of surplus to a region of deficit—the market at work. Attempts to impede markets will work in the short-term, but ultimately will result in an inefficient, unproductive industry. If this is the goal of the cattle industry, it can be attained by protection, but at a high cost. There will be trade friction, disruptions in shipping, and retaliation by trading partners.

Inconsistent interpretation and application of NAFTA provisions has caused major disruptions in U.S.-Mexico trade in recent years. Under NAFTA, beef and live cattle trade were duty free immediately upon implementation. NAFTA should result in higher U.S. prices for beef and beef by-products and will have a positive impact on cattle prices, on balance. However, these changes will be small because U.S.-Mexico livestock and meat trade is largely complementary, with the U.S. exporting meat, meat by-products, and fed cattle, and Mexico exporting feeder calves to the U.S. market. While U.S. beef exports may boost beef and cattle prices, imports of feeder steers may reduce them. For U.S. stocker operations, Mexican cattle are a low cost source of supply. U.S. imports of Mexican feeder and stocker cattle have expanded from 500,000 head in 1980 to 1.2 million head in 1994 and a record 1.6 million head for 1995. Only 456,000 head were imported in 1996, compared to 669,000 head in 1997. Through November 17, 1998, only 536,870 head of Mexican cattle had been imported. Constraints to increased U.S. cattle imports from Mexico are limitations on herd size due to drought and herd liquidation which occurred in 1994-96 and continued through most of 1997. Undesirable breed characteristics, increased demand for meat in Mexico, and compliance with some U.S. animal health regulations also limit the potential supply of imported cattle from Mexico.

Conclusions

New international markets will lead to higher farm prices and greater returns for some producers. Trade, however, is also a major source of import competition and market instability for some producers, leading to declining market prices and lower returns. Benefits from freer trade also come with added risks because trade is influenced by many factors. Changes in trade policies and economic growth rates among countries, exchange rate fluctuations, and the emergence of new competition all influence trade and make the international market more risky for producers. Nevertheless, with declining government support to agriculture, greater access to international markets is crucial to the future growth and prosperity of the agricultural economy of the United States. U.S. agriculture also may have much to gain from expanded trade since many countries, especially in Central and South America, already have low duty access to the U.S. market, while U.S. access to their markets is limited by high tariffs and non-tariff barriers. Expanded
extension education targeting producers and policy makers, coupled with greater multinational coordination among government agencies, producer groups, and private sector trade facilitators will be necessary for efficient, effective transition to freer trade in the future.
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