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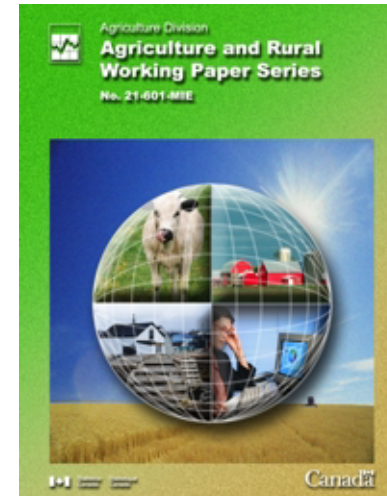
Integration of Canadian and U.S. Cattle Markets

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Working Paper No. 53**

Integration of Canadian and U.S. Cattle Markets

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April 2002

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Note of appreciation: Canada owes the success of its statistical system to a longstanding partnership between Statistics Canada and the citizens, businesses and governments of Canada. Accurate and timely statistical information could not be produced without their continued co-operation and good will.

Abstract

The face of international trade is altering quickly, especially with globalisation as one of the key catalysts for change. It can be argued that freer trade leads to better allocation of resources and increased competitive forces, which reduce production costs and ultimately consumer prices. The opportunity for growth and prosperity are magnified for smaller economies like Canada. This was evidenced in the Canadian cattle industry with the onset of the Canada-U.S. Free Trade Agreement (CUSTA) in 1989 and the North American Free Trade Agreement (NAFTA) in 1992. CUSTA eliminated tariffs on both live cattle and beef within a few years of its implementation. NAFTA refined the policies outlined in CUSTA and extended them to Mexico.

In Canada and the U.S., the cattle and beef industries have a significant impact on the economy and play a major role in the agriculture of both countries. Cash receipts from the sale of cattle and calves in Canada were \$6.2 billion in 1999, or 18.5% of all farm cash receipts, while in the U.S. the corresponding amount was \$54.2 billion or 17.0% of all farm receipts (in current Canadian dollars).

Alberta has the largest share of cattle production of all the provinces at 50% of cash receipts. In the U.S., The Great Plains account for about half of cash receipts. The importance of cattle production in the farm economy in the U.S. has remained fairly stable over time, whereas in Canada the importance has increased.

As integration of the global economies deepens, nations face major opportunities and challenges. To realize the potential benefits of economic integration, businesses need to manage the challenges of intense international competition and the pressures for structural and technological adjustment. In Canada, feeder cattle production expanded in Alberta where feed grain is abundant and relatively inexpensive. The elimination of government subsidies, such as the Crow's Nest Rate in 1995, means that western producers now use more grain to feed cattle and market them to the U.S. In the U.S. there has also been a general shift to the west in cattle production.

Trade with the US in live cattle has increased the importance of the Canadian cattle sector as an export industry. Although domestic per capita consumption of beef has remained stable, the cattle and beef industry in Canada has expanded due to population increases and export markets in the U.S. Canada exported \$1.2 billion in cattle to the U.S. in 1999, and this value is much higher than \$690 million in 1990 (in 1992 dollars). Canada's share of Canadian-U.S. cattle production went from 8.7% in 1990 to 9.8% in 1999. Canada's share of beef production went from 8.0% in 1990 to 9.1% in 1999.

In contrast to the Mexican industry, which has a significantly different composition, the structure of the U.S. and Canadian cattle sectors is very similar. The structural similarity, the lack of trade barriers, and relative unimportance of government intervention in the industry have contributed to the integration of the two markets. Trade data (from Statistics Canada and U.S.D.A) for slaughter cattle, feeder cattle and beef is analysed to further assess the impact of integration of Canadian and U.S. cattle markets.

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1. Introduction

The face of international trade is altering quickly, especially with globalisation as one of the key catalysts for change. It can be argued that freer trade leads to better allocation of resources and increased competitive forces, which reduce production costs and ultimately consumer prices. The opportunity for growth and prosperity are magnified for smaller, trade dependent economies like Canada. This was evidenced in the Canadian cattle industry with the onset of the Canada–U.S. Free Trade Agreement (CUSTA) in 1989 and the North American Free Trade Agreement (NAFTA) in 1992. CUSTA eliminated tariffs on both live cattle and beef within a few years of its implementation. NAFTA refined the policies outlined in CUSTA and extended them to Mexico.

CUSTA deals with subsidies, market access and technical regulations that are aimed directly at agriculture in both countries. The Appendix of this paper outlines specific details on NAFTA and CUSTA. Canada and the U.S. eliminated custom duties on imports of live cattle and beef and agreed not to introduce or maintain any export subsidy on agricultural goods (including meat) which would affect the other country. Both countries are required to take into account the interests of the other when using export subsidies in relation to agricultural goods exported to third countries and when providing export subsidies to primary products. They also agreed not to introduce any quantity limits for meats exported from each other and integrated the regulations and inspections. The agreement improved market access for agricultural goods from both countries, which resulted in more integration.

CUSTA provides emergency safeguards for both the U.S. and Canada during the *transition period*¹. Under the World Trade Agreement, General Agreement of Tariffs and Trade (GATT) allows for temporary safeguard measures (in the form of quotas or surtaxes) to be imposed in circumstances where there is a sudden increase in imports which is causing or threatening to cause serious injury to domestic producers. Both countries agreed to exclude each other from this provision in GATT, unless the imports are *substantial*² and are contributing to the injury being caused or threatened.³

Canada's rapid increase in exports to the U.S.A. since 1990 caught the attention of the U.S. cattle industry in 1997. There were two complaints brought forward against Canadian live cattle exports in the fall of 1998. The Canadian industry was accused of being subsidised, and the *Dumping Case* claimed that this industry was selling cattle below the cost of production. The first case was dismissed because Canada demonstrated that the industry was not being improperly subsidised. The subsidies are too small to warrant countervail administration. Canada also won the second case, due to the fact that its penetration into the U.S. market was low (4-5 percent) and thus not injurious to the U.S. cattle industry.

¹ The *transition period* is January 1, 1989—December 31, 1998.

² GATT states that imports between 5 and 10 per cent of total imports or less would normally not be considered substantial.

³ They have to be contributing importantly, i.e., are an important cause, but not necessarily the most important cause of serious injury or threat thereof.

Canada, the U.S. and Mexico signed NAFTA creating a unified North American market. Inherent safeguards in NAFTA are designed to include Mexico and to modify and strengthen those found in CUSTA. They follow the same format and approach as CUSTA as they establish separate global and bilateral tracks for goods. Items in CUSTA are adjusted in terms of the magnitude with which subsidy provisions are expanded to cover both domestic and export subsidies. NAFTA facilitates the creation of ongoing working groups to monitor and discuss the impact of agricultural subsidies on the economies of each country with methods of notification and consultation on export subsidy expansion. This agreement facilitates cattle and beef trade between the two countries.

Trade with the U.S. in beef and live cattle has increased the importance of the Canadian cattle sector as an export industry. Although domestic demand for beef has remained relatively stable, the cattle and beef industry in Canada has expanded due to export markets in the U.S. In 1999 Canada exported 434,000 tonnes of beef⁴ to the U.S. which is well over four times more than the 98,000 tonnes sent across the border in 1990. Canada's share of Canadian-U.S. beef production increased from 8.0% in 1990 to 9.1% in 1999. Canada exported \$1.2 billion in live cattle to the U.S. in 1999, while in 1990 this value was \$690 million (in 1992 dollars). Canada's share of Canadian-U.S. live cattle production went from 8.7% in 1980 to 11% in 1990 and 9.8% in 1999.

Section 2 of this paper provides some background on the industry's cash receipts, the relationship to grains and grain prices, the production structure, and beef consumption. The focus of *Section 3* is specifically the Canada and U.S. trade in live cattle and beef, and finally *Section 4* ends the paper with observations and conclusions.

2. Cattle and Beef Industry Background

Cattle production is a key part of both the agricultural sector and the domestic economy for both Canada and the U.S. Since significant amounts of feed are required for maintenance of large cattle herds, this industry is inter-linked with the forages and feed grains industry.

Canadian and U.S. cattle production is based on highly productive beef cattle breeds. The Canadian herd has grown from traditional breeds such as Hereford and Angus, bred for their hardiness, adaptability to the Canadian climate, and excellent foraging capability. The infusion of continental European breeds such as Charolais and Simmental since the 1960s had two goals: (1) broadening the genetic base of the herd, and (2) improving such economically important traits as reproductive performance, rate of gain, feed conversion, and meat quality. The commercial sector has initiated crossbreeding to take advantage of the valuable traits of certain breeds and of hybrid vigour.

⁴ In dressed carcass basis.

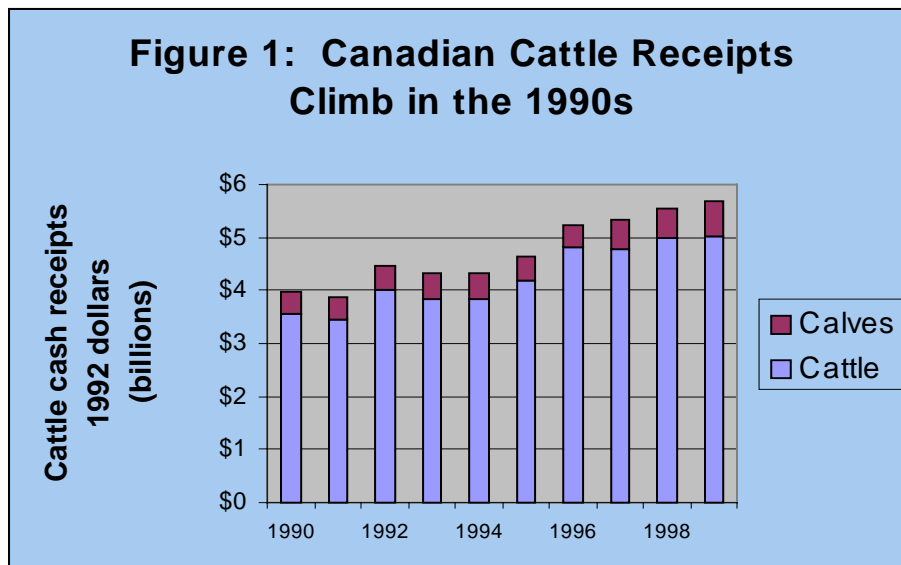
The Canadian and U.S. beef production systems are quite similar in structure with three main types of operations: (1) cow/calf operations, (2) backgrounding operations, and (3) feedlot/finishing enterprises. Furthermore, beef consumption patterns are also very alike for both countries and have remained fairly stable over the recent few years with beef remaining the meat of choice in both countries. For more details on beef consumption see *Section 2.4*.

The first part of this section presents a general overview of the size of the cattle and beef industries in Canada and U.S., while part two outlines the grain industry, as it relates to cattle production. The structure of the cattle and beef industry and the beef consumption patterns in Canada and the U.S. are topics of the last two sections.

2.1 Cash Receipts

In Canada and the U.S., the cattle and beef industries have a significant impact on the economy and play a major role in the agriculture of both countries. Cash receipts from the sale of cattle and calves in Canada were \$5.7 billion in 1999, or 18.5 percent of all farm cash receipts, while in the United States the corresponding amount was \$56.2 billion or 17.0 percent of all farm receipts (in 1992 Canadian dollars).

Alberta has the largest share of cattle production of all the provinces at 52.9 percent of cash receipts. In the United States, the Great Plain States⁵ account for about half of cash receipts. The importance of cattle production in the farm economy in the U.S. has declined over time, whereas in Canada the importance has increased.



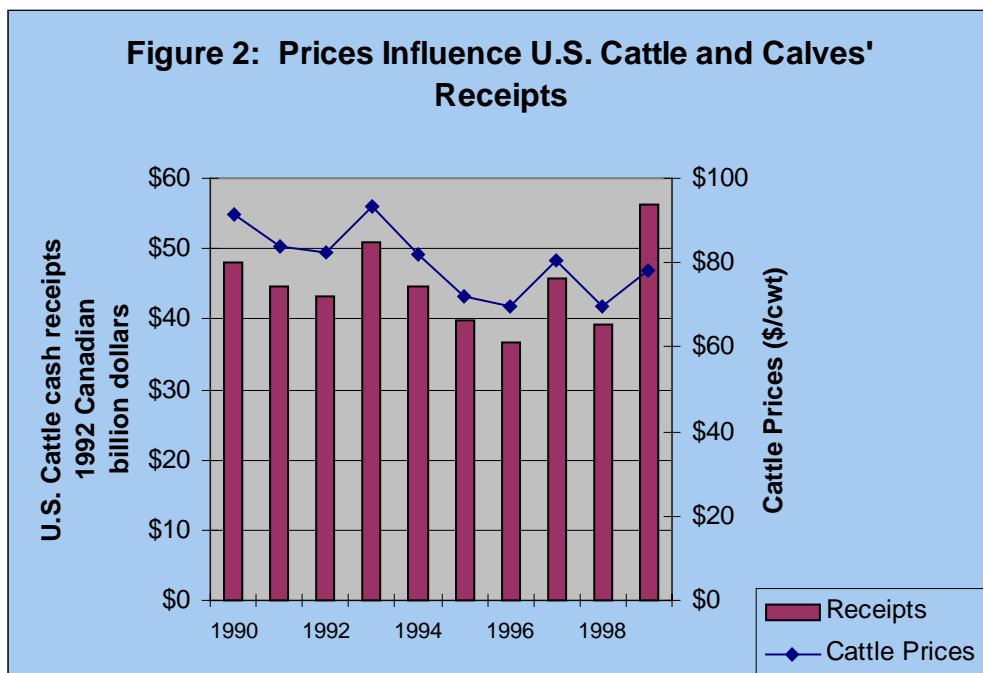
Source: Statistics Canada, Agriculture Division, Farm Income and Prices Section.

Note: Farm cash receipts have been deflated to 1992 dollars using the Canadian Farm Product Price Index for cattle and calves.

⁵ The Great Plains region consists of Oklahoma, Texas, Kansas, Nebraska and the Dakotas.

Canadian farm cash receipts for cattle have been increasing steadily over the past few years, *Figure 1*, more specifically the number (in 1992 dollars) is \$5.0 billion for 1999, which compares to \$3.5-\$4.0 billion in the early 1990s, and represents a 25-40 percent increase. For calves, the corresponding amounts are \$670 millions for 1999 and approximately \$450 millions for the early 1990s, which measures to almost a 50 percent expansion. The increase in farm cash receipts for the cattle and calves sector is fuelled by an increase in the number of cattle and calves sold. There is a growing demand for Canadian cattle across the border, especially for slaughter cattle.

In the United States, farm cash receipts for cattle and calves have been generally decreasing over the past few years, except in 1999 when there was a significant increase. They were \$48.1 billion in 1990 and \$56.2 billion in 1999, which shows a 16.8 percent increase (in Canadian 1992 dollars). The change in farm receipts for the cattle and calves sector is largely explained by the changes in prices, as illustrated in *Figure 2*. For example, when prices were the highest (i.e.1993), farm cash receipts were among the highest in the 90s and when (i.e. 1996) prices the lowest, farm cash receipts were at their lowest.



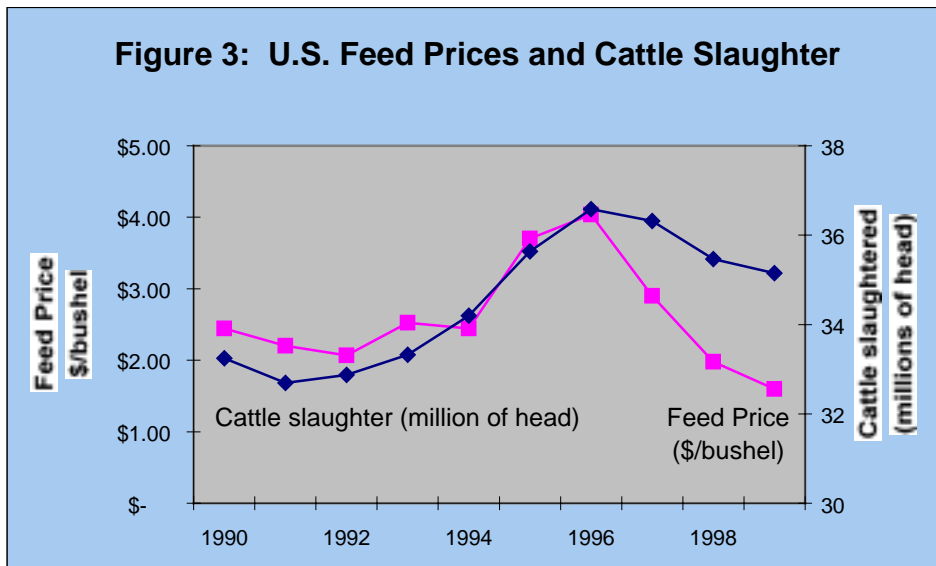
Sources: Statistics Canada, Agriculture Division, Farm Income and Prices Section and the United States Department of Agriculture.

Note: Farm cash receipts and cattle prices are deflated to 1986 dollars using the U.S. Meat Animal Price Index, which is comprised of cattle and hogs, with cattle and calves accounting for over 78 percent of the basis.

2.2 Grain

Since feed grains, vegetable proteins, and roughage are a major input for the cattle and beef sector in Canada and the U.S., cattle and beef production is affected in many ways by federal policies and programs designed to maintain farm income in the crops sector. For example, in Canada federal policies such as the Net Income stabilisation Account, Crop Insurance, and the Agricultural Income Disaster Assistance Program provide direct payments to grain producers. In the U.S. the Loan Deficiency Payments (LDP) stabilise income for crop farmers. Stability in the crops sector is very important to the livestock industry since this input accounts for at least 60 percent of the cash expenses in the cattle industry, depending on the price of feed grain.

Changes in feed prices significantly affect the profitability, and thus production responses in the cattle industry; conversely, changes in the animal sector profitability can significantly affect feed demand and thus feed prices (see *Figure 3* for details). Generally, when feed prices are high, more cattle are slaughtered and the demand for feed decreases. Feed demand is derived from the animal sector whose product is dependent on consumer demand; hence, feed demand and prices depend on factors, such as animal product prices and major economic conditions such as income, unemployment, and general inflation levels, which affect consumer and export demand for animal products.



Source: United States Department of Agriculture.

Note: U.S. price of corn is used as a proxy for feed grain prices. These numbers were deflated to 1992 prices using the U.S. Feed Grain and Hay Price Index. Feed grains account for 85% of this index, and corn is the principal grain for cattle.

Cattle producers are affected by the state of the world's grain market. There is a correlation between trade in grains and trade in live animals, red meat and red meat products. For example, during the grain price boom of the early 1970s, the livestock industry suffered large financial losses, and many producers sold off their cattle herds, mainly due to the livestock industry's inability to buy significant quantities of low priced

grain as feed. When the grain industry collapsed in the mid-1980's, the livestock industry once again strengthened. Such cycles in the grain industry have created a high degree of uncertainty for the cattle industry. The boom and bust cycles and the resulting volatility are due in part to the reliance of world grain markets⁶. The factors contributing to this volatility are: grain export markets are highly changeable, supply and demand are inelastic, weather conditions are prone to change, the value of currencies and exchange rates fluctuate, the world economy also fluctuates, and importantly, the internal agricultural policies of the major trading countries tend to change.

In the U.S., the federal Loan Deficiency Payment program eliminates inequities resulting from differing regional transportation costs, by having a different rate for each county, while in Canada there was a transportation subsidy, the Crow Rate, in effect till 1995. The following section elaborates on this subsidy.

2.21 Crow's Nest Rate (Western Grain Transportation Act)

The elimination of the Crow Rate in 1995 is an internal policy change in Canada that resulted in changes to the cattle industry. Grain prices and the cost of transportation through the imposition of federal and provincial programs have helped determine the pattern of cattle production in Canada.

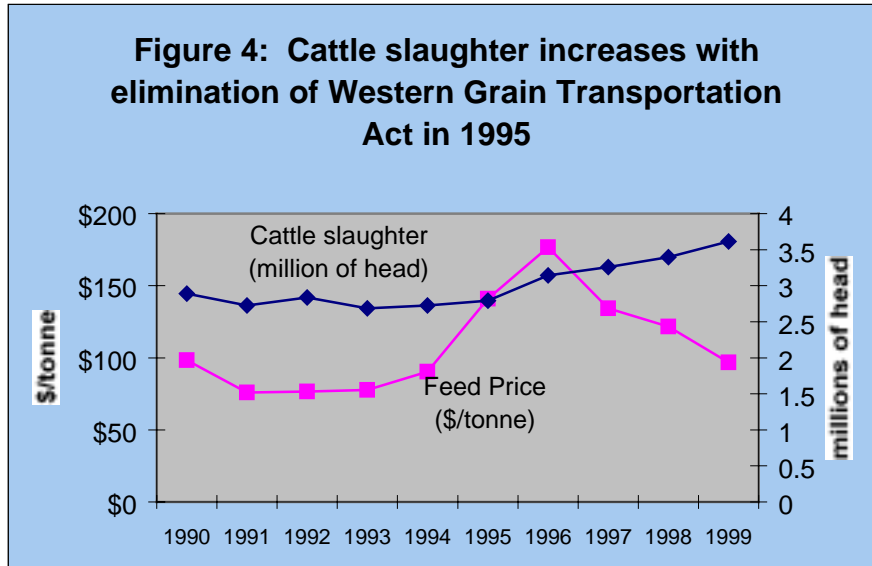
The Western Grain Transportation Act (WGTA), which came into effect in 1983, replaced the fixed statutory freight rates on grains with rates that were meant to reflect changing costs of grain transportation. As a part of the WGTA, the Crow Rate covered approximately 60 percent of the total grain transportation costs. Producers paid the remaining 40 percent, and this allowed remote regions to export grains at rates below what they would otherwise be, and thus discouraged livestock feeding in those regions.

Since producers of export grains in the prairie region were not required to pay the full costs of transporting their products to export locations, the on-farm price of these grains was higher than it might have been if the farmers were paying the full costs of transportation. As a result, livestock producers in Western Canada paid relatively higher prices for their most important input—feed grains. This higher price in the feed grain market shaped the cattle industry's location in Canada. Higher feed grain prices led to lower production in the eastern provinces, and further impacts included less incentive for activities such as feed processing, livestock trucking, and meat processing.

In 1995 the Western Grain Transportation Act was terminated allowing grain prices to reflect the full costs of transportation. Western grain producers now use grain to feed cattle. Not only is there an increase in cattle and beef production in the prairie region of Canada, but there's also an increase in grain-based, value-added activities. At a time when the Canadian cattle industry was contracting, the production in Western Canada expanded, while in the east it contracted.

⁶ Over 70% of Prairie wheat are exported.

Since the elimination of the WGTA in 1995, cattle farming in Western Canada became more profitable due to the lower cost of feed. More and more cattle are slaughtered in Western Canada, while there is a lower relative growth in the east. *Figure 4* outlines the increased recent cattle production in Canada as a whole as feed prices decreased. Alberta's non-CWB (Canadian Wheat Board), barley prices are a proxy for feed grain prices in *Figure 4*.



Source: Statistics Canada, Agriculture Division, Farm Income and Prices Section.

Note: Alberta's non-CWB (Canadian Wheat Board), barley prices are a proxy for feed grain. These numbers are deflated to 1992 by using the Farm Product Price Index for Alberta grain.

Along with the feed grain industry, the structure of the cattle and beef industry also determines production activity in the sector.

2.3 Structure

The structure of the U.S. and Canadian cattle sectors is very similar. The structural similarity, the lack of trade barriers, and relative unimportance of government intervention in the industry have contributed to the integration of the two markets.

The Canadian beef production system has the following three different activity levels, the cow/calf operation, the backgrounding operation and the feedlot/finishing enterprise. This section focuses on these three components of the cattle and beef industry for Canada.

2.31 Cow/Calf

Cow-calf operations⁷ are enterprises where a cow herd is maintained and calves are raised and ultimately sold after weaning from the mother cows. The cow/calf operator⁸ begins the meat supply process with the production of calves and maintains the industry's breeding stock. Weaned calves, steers and heifers⁹ are the principal products of the cow/calf sector.

The cow/calf industry depends on the availability of inexpensive grazing land and low-cost feed. Since feed is a major cost item that accounts for about 70 percent of total production costs¹⁰, it is not surprising that many cow-calf enterprises are operated in conjunction with grain operations. The cheap forage base upon which the cow-calf sector in Western Canada is based results in calves being available to commercial feedlots on a more consistent basis.

The number of cow/calf operations has decreased in Canada since the 1960's. However, Census of Agriculture data shows that the number of cow/calf operations increased slightly (by approximately 3 percent) from 1991 to 1996.¹¹ This is due to a decrease in the number of small farms, even though the number of large farms increased. In parallel to this, the average number of beef cows per farm increased by 18.4% percent from 38 head in 1991 to 45 head in 1996.

Depending on breed, production process and market conditions, the calves will enter into one of the two remaining activities—a backgrounding/stocker operation or a feedlot integrated operation.

2.32 Backgrounding

Background is the process of taking calves, usually in the fall of the year, over-wintering them on silage or forage based ration, and pasturing them in the spring for growth to heavier weights.¹² In many cases, backgrounding occurs on the farm that originally produced the calves. This type of operation had both beef cows and slaughter cattle.

2.33 Feedlot/Finishing

The feedlot operation is the final level of activity in the beef production system. Western and Eastern Canada are different in that the feedlots are integrated with other operations in the East. In general, the feedlot/finishing operation typically buys feeder animals from the backgrounding/stocker operation or cow/calf producer and finishes them to slaughter

⁷ A cow/calf operation must have more than one beef cow to be defined as such.

⁸ Also known as a rancher.

⁹ These are approximately 8 months old and weigh 220 kilograms.

¹⁰ This varies depending on grain and roughage costs.

¹¹ The number of beef cow farms was 100,800 in 1991 and 103,673 in 1996.

¹² A backgrounded animal generally weighs 350-450 kilograms.

weight. Here, animals are put on a high-energy ration to increase in weight till they reach their slaughter weight.¹³

Feedlot finishing of cattle is an important industry in Canada and is a major market for feed grains such as barley, corn and to a lesser extent wheat. This sector, which is a high-risk business, also converts forage produced in crop rotation and by-products of speciality crops into marketable items.

The decision to send cattle to the feedlots is dependent on the production and management alternatives available to the operator and the economic climate. If farmers choose to expand herd size, backgrounded heifers are retained for breeding and second-generation calves are born. Consequently, fewer animals are sent to the feedlots, and the breeding herd expands.

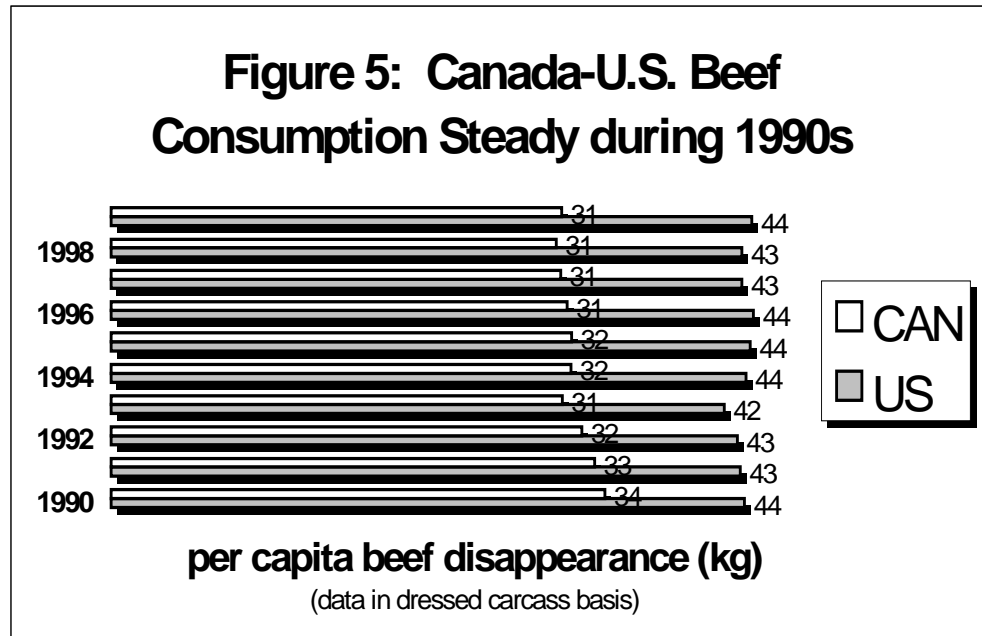
2.4 Beef Consumption

Over the past few decades, Canadian consumers have altered their consumption patterns of meat and poultry products by opting for more poultry. A common hypothesis is that the relative decline in red meat consumption is due to consumers' increased awareness of the health effects in their diets. Another probable cause for this is the fact that the price of chicken relative to the price of beef declined by nearly 50 percent in the 1970's.

Canadian per capita beef consumption increased throughout the 1960s and 70s, to a high of 50.4 kilograms¹⁴ in 1972, and it has been decreasing ever since. Consumers opted for low fat cuts and chicken. The rate of decrease in beef consumption has become less over the last two decades and since 1996, it has stabilized. In the U.S. beef consumption also decreased in the 60s to 90s. *Figure 5* outlines per capita beef consumption for both Canada and the United States over the 90s. Per capita consumption of beef in Canada was 34.0 kilograms (kg) in 1990 and 31.0 kg in 1999, which represents an 8.8 percent decrease. In the U.S., beef consumption numbers corresponding to these years are 43.6 (1990) and 44.1 kg (1999), which indicates a modest increase of 1.1 percent. Canada produces more beef than it domestically consumes. A close look at U.S. beef consumption shows that there is no declining trend to be observed as there is in Canada, and Americans continue to eat almost 50 percent more meat per capita than Canadians. U.S. makes a good beef export market for Canada.

¹³ Slaughter weight is approximately 550 kilograms.

¹⁴ Dressed carcass basis.



Sources: Statistics Canada, Agriculture Division, Livestock and Animal Products Section and the United States Department of Agriculture.

3. Canada and U.S. Trade in Feeder Cattle and Beef

International trade is of vital importance to the economic health of Canada's cattle and calves sector. The Canadian cattle and beef market is increasingly becoming a significant part of the larger North American market. The high cost of transporting live animals overseas coupled with "nearness to market" makes the U.S. a logical market for Canadian cattle. Canada mainly trades with the U.S. while the exports share to overseas markets increases as new markets are developed in Asian countries, Mexico and elsewhere. The onset of CUSTA and NAFTA has resulted in the elimination of tariff barriers that impeded the movement of live cattle between the two countries in the past.

As integration of the global economies deepens, Canada continues to face major opportunities and challenges. To realise the potential benefits of economic integration, there have been structural and technological adjustments in the Canadian cattle industry. More specifically, feeder cattle production expanded in Alberta where feed grain and land are abundant, road networks are very good, and the winter is not as hard as in the other parts of the prairies. The elimination of the WGTA in 1995 on grain transportation, means that in western Canada there was a larger supply of feed grain as grain export cost rose. In the U.S. there has also been a general shift to the west in cattle production.

The live cattle and beef markets of Canada and the U.S. are becoming more and more integrated through trade agreements, such as NAFTA and CUSTA, and domestic policies in increasing market integration between the two countries. The influence of CUSTA\NAFTA was to take some of the risk out of cross-border trade, and thus it

resulted in further integration of the Canadian and U.S. markets into a single market with the supply and demand determining a single price. Furthermore, the construction/purchase of Western Canadian packing plants by Cargill and I.B.P. Inc., two large American-based firms further solidified the two countries' cattle industry into a single market. Given the size of the U.S. industry and that Canada produces more than it consumes, Canada follows the U.S. Market. Canadian price structure is dominated by the U.S. market conditions. Another factor contributing to integration is the fact that culturally the market is integrated. Both countries speak English and Canadians are accustomed to trading in U.S. currency.

The next section provides a brief overview of historical patterns in trade between Canada and the U.S. Then there is an analysis of the live cattle and beef sectors to assess the impact of integration of the two countries' cattle markets.

3.1 Historical Patterns

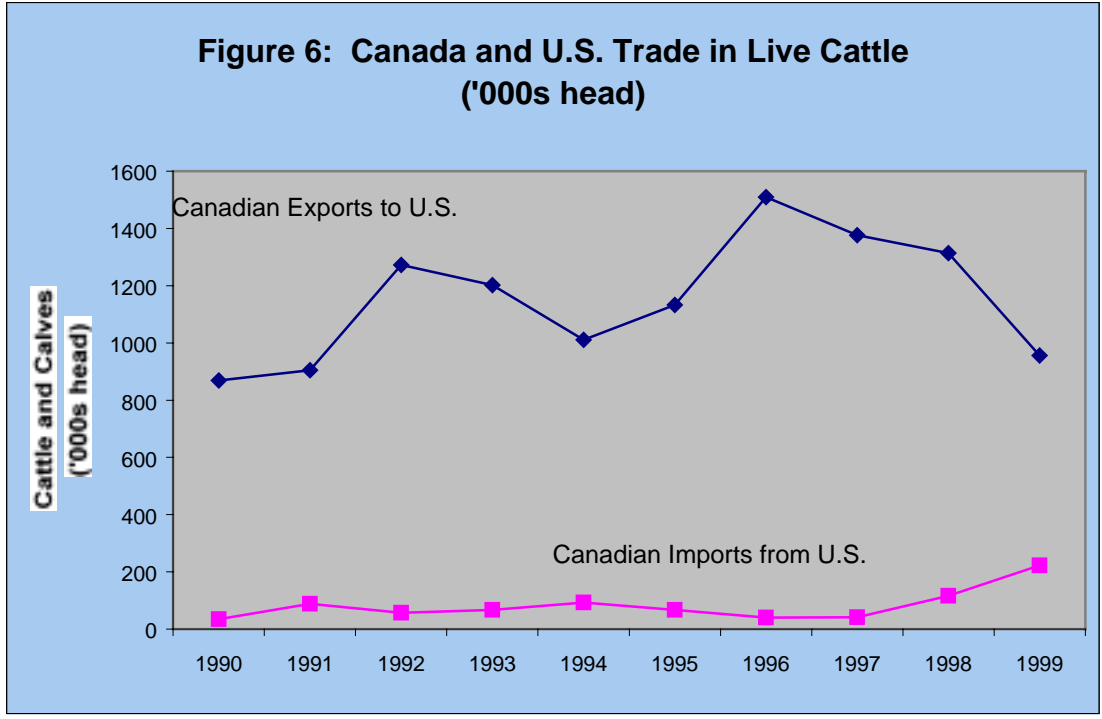
Historically, export markets have been a driving force of the Canadian cattle and beef market particularly since the late eighties. Imports of cattle and calves into Canada have fluctuated throughout the last few years, even so and although smaller, imports are an important factor.

Canadian live cattle exports to the U.S. have been increasing, in general, as shown in *Figure 6*, although more recently (since 1996) there has been a decline. Due to the nature of the cattle cycle direct comparisons from year to year should be done with caution. After 1987, the level of Canadian exports began to expand, and a regional dominance emerged in the west. This growth continued even more so after the onset of NAFTA and CUSTA and drove the overall Canadian export levels to record numbers in the 1990s. Canada now exports approximately 1 million cattle a year to the U.S., which in 1992 Canadian dollars values at \$1.15 billion.

During the early 1990s there were approximately 40,000 (head) cattle imported for slaughter each year, and this number grew four and a half times to 181,400 (head) in 1999. Calve imports jumped from 600 in 1990 to nearly nine times as much, reaching 52,800 in 1999 (see *Figure 6*). An agreement between Canada and the U.S., known as the Restricted Feeder Program¹⁵, allows easier access for the U.S. to import cattle into Canada by allowing animals from any U.S. state free of disease to enter into Canada without testing.¹⁶ The Canadian Cattlemen's Association proposed this program to promote trade of feeder cattle between Canada and U.S. The agreement benefited Canadian beef producers by allowing farmers to import feeder cattle at lower prices. This program may be partially responsible for the recent increased cattle and calf imports from the U.S.

¹⁵ Earlier this was called the Northwest Cattle Project.

¹⁶ Canada is free of a number of animal diseases found in the U.S., such as bovine brucellosis, tuberculosis and malignant cattarhal fever.

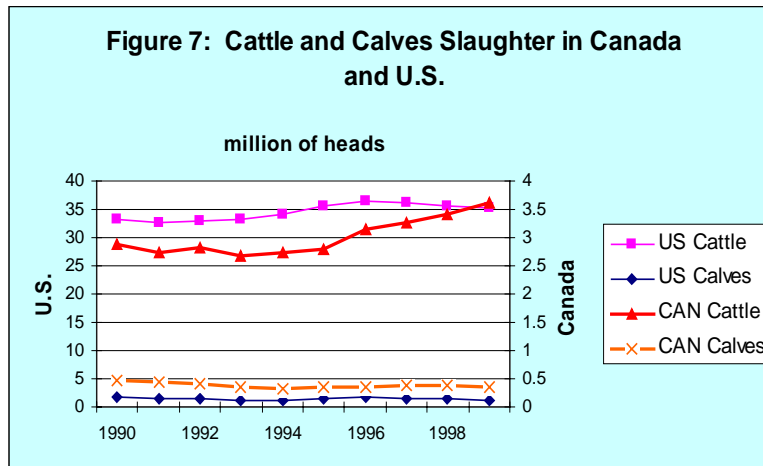


Source: Statistics Canada, Agriculture Division, Livestock and Animal Products Section

3.11 Live Cattle

Trade in Canadian cattle with the U.S. has changed dramatically over the past fifteen years. Canada increased its size and output by almost 50 percent and became dependent on its export competitiveness. Canada exports 22.7 percent of its production output from cattle and, it is now dependent upon the U.S. market for well over 90 percent of those exports. U.S. growth in output has not been to the same extent as in Canada.

Canada produces approximately 4.4 million cattle a year, while U.S. production is almost ten times as much with over 35 million cattle a year, *Figure 7*. Much of the growth in Canada’s cattle industry ends up as exports of live cattle to the U.S. In the late 1980s, cattle farmers exported 400,000 head of cattle and calves to the U.S., and more recently, in 1999 they exported 1.0 million, for a 150 percent increase. However, compared to the size of the U.S. market, Canadian exports still remain low.



Sources: Statistics Canada, Agriculture Division, Livestock and Animal Products Section and the United States Department of Agriculture.

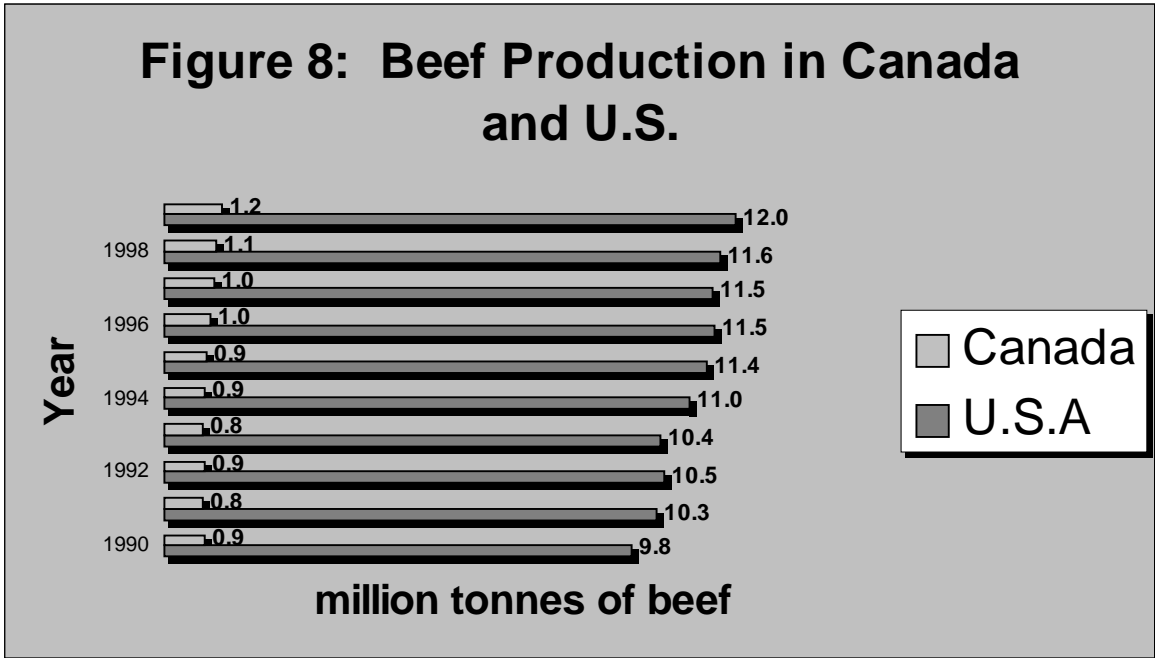
3.12 Beef

The U.S. produces at least ten times as much beef as Canada and is less dependent on trade. The U.S imports and exports are less than ten percent of its production, Canada on the other hand, trades a quarter of the amount it produces. This makes Canada more dependent on trade, especially with U.S. since it's the largest export economy for Canadian beef. *Figures 8* and *9* illustrate production and trade in beef for the two countries.

In 1990, U.S production was 9.9 billion kilograms (kg), while Canada had 0.9 billion kg. Beef production has been increasing steadily in the two countries over the past twenty years. U.S. produced 12 billion-kg in 1999 and Canada 1.2 billion-kg, which measures to a 22 percent increase from 1990 for the U.S. and 33 percent for Canada (see *Figure 8*).

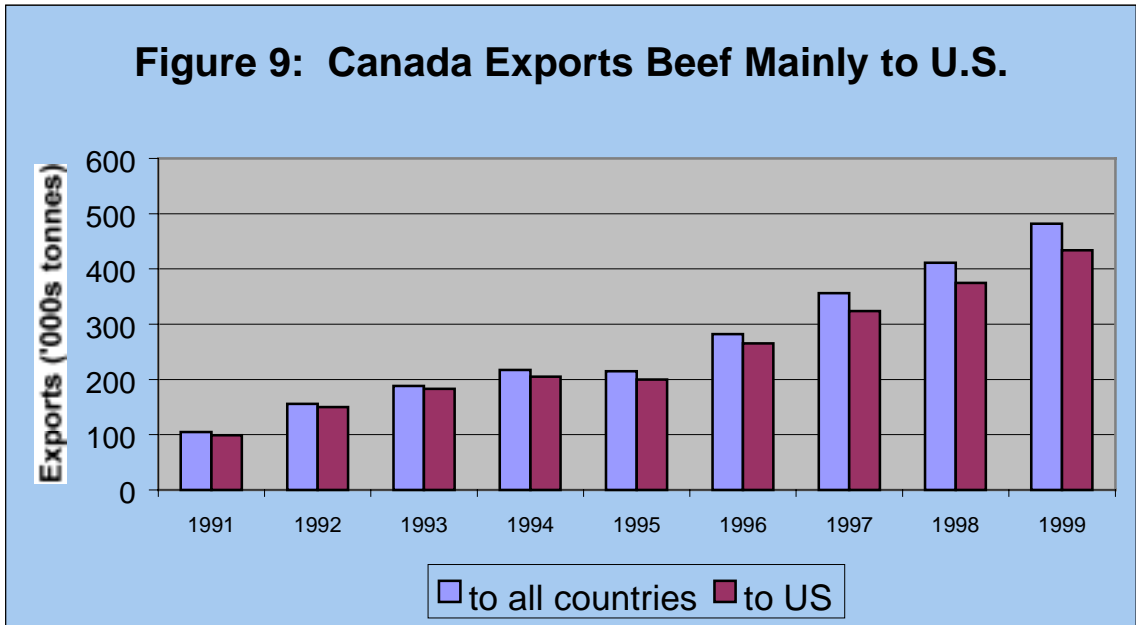
Canadian exports of beef to U.S. have been increasing rapidly since at least the mid 80s. More specifically, in 1990 105 thousand tonnes of Canadian beef were exported, while in 1999 this increased by four and half times to 482 thousand tonnes. The corresponding amounts for beef exports to the U.S. are 98 thousand tonnes in 1990 and 434 thousand tonnes in 1999. As illustrated in *Figure 9*, the United States is Canada's largest export market for beef, with at least 90 percent of beef exports landing in the U.S. and the other 10 percent covered largely by Japan, Taiwan and South Korea.

Figure 8: Beef Production in Canada and U.S.



Sources: Statistics Canada, Agriculture Division, Livestock and Animal Products Section and the United States Department of Agriculture.

Figure 9: Canada Exports Beef Mainly to U.S.

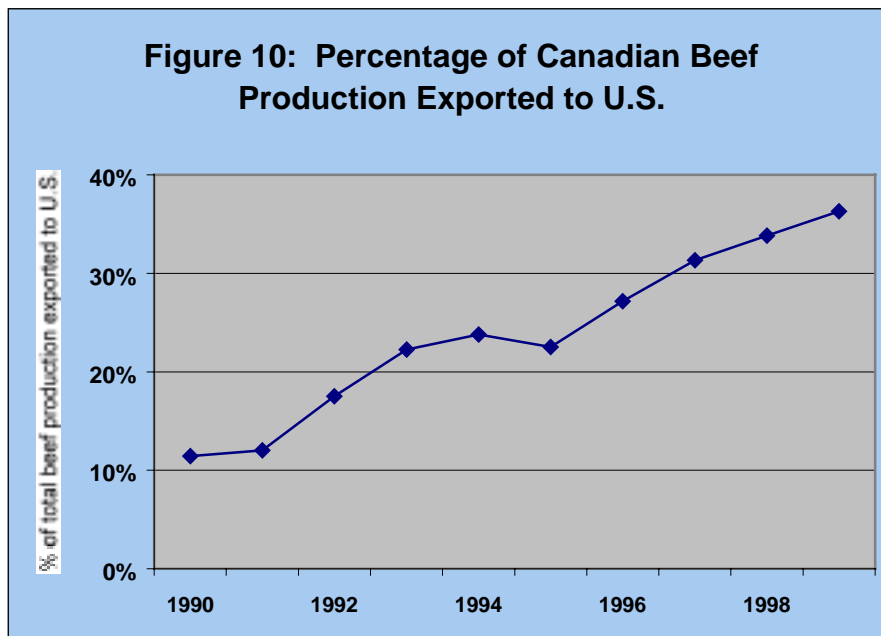


Source: Statistics Canada, Agriculture Division, Livestock and Animal Products Section

With the U.S. having such a major share of the export market for Canadian beef, it can be argued that the market in the U.S. largely determines cattle and beef prices in Canada (with Canadian prices reflecting differences in transportation costs and exchange rates), which is another impact of integration. Even though the U.S. dominates the U.S. market, due to production and trade, Canada influences prices. In Canada and the U.S., government intervention in the beef sector has been reduced over the last decade. The remaining programs in both countries are alike, and therefore are likely to allow them function as one, integrated market.

The elimination of import quotas may have been more important than reductions in tariffs in increasing trade between the two countries. Before CUSTA, each country restricted imports under their domestic meat import laws. The Meat Import Act was converted to Tariff Rate Quotas (TRQs) under the 1995 World Trade Organisation agreement. CUSTA eliminated the TRQ and the result was increased trade between Canada and U.S.

The quantity of beef traded between the two countries has increased significantly. In particular, Canada is exporting a larger share of its beef production to the U.S. by each year. This trend can be seen in *Figure 10*. As an example, in 1990 Canada exported 11 percent of its production to the U.S., and in 1999, this amount more than doubled to approximately 36 percent of beef production ending up in the U.S., and this makes up 90 percent of all of Canadian beef exports.

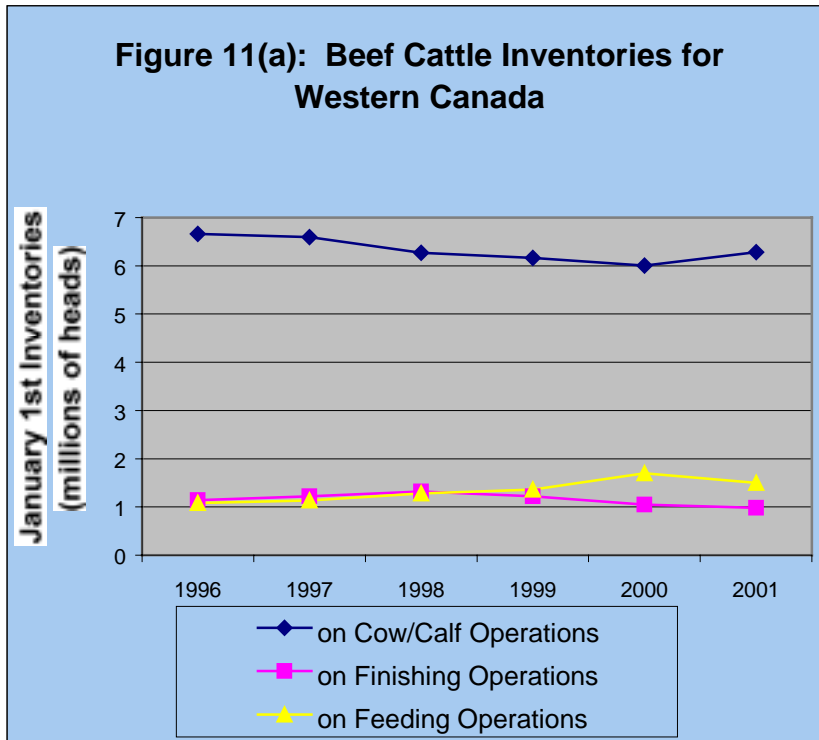


Source: Statistics Canada, Agriculture Division, Livestock and Animal Products Section.

3.2 Factors Affecting Trade and Industry Structure

The previous sections discussed how feed costs, internal policy and trade agreements affect cattle and beef production and trade. Other significant factors that affect cattle are the supply of animals and foreign exchange rates.

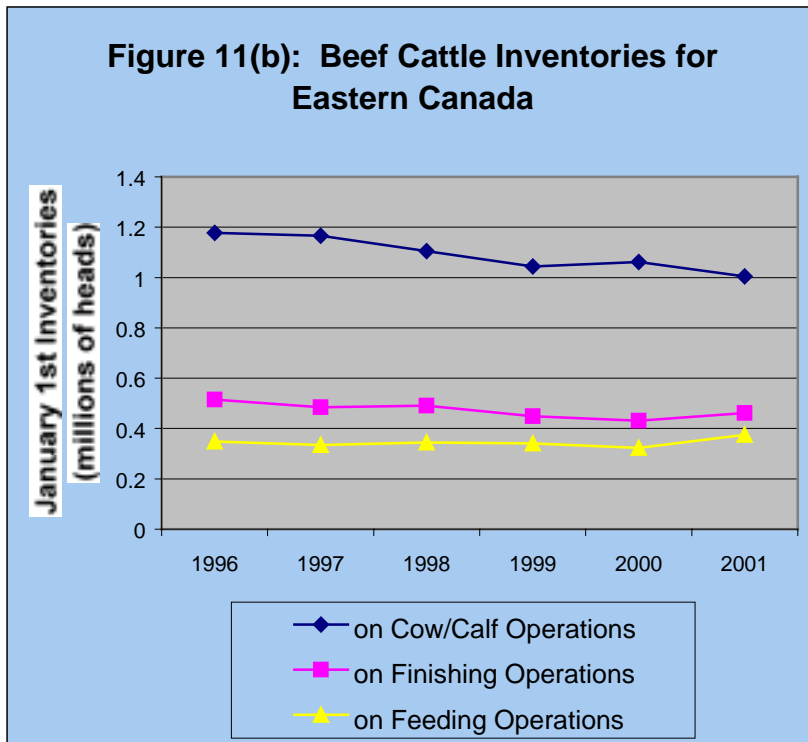
The supply of animals, as determined by the cattle cycle, in Canada and U.S. has been in a contraction phase since the mid 90's, and now inventories seem to be increasing. As indicated in *Figure 11(a)*, beef cattle inventories for Western Canada, which account for 70 percent of cattle in Canada, have been declining since 1996. At the national level, the herd reached a high of 15.1 million in 1996 after recovering from low inventories during the mid-1980s. The cow/calf inventories determine the future supply of feeders for backgrounding and feedlot finishing operations. Since cow/calf inventories are increasing now in response to improving prices, there will likely be more beef in the market in the near future. The turning point in the cycle is hard, if not impossible, to predict, although there is usually some similarity between the American and Canadian cycle.



Source: Statistics Canada, Agriculture Division, Livestock and Animal Products Section.

Note: Western Canada includes British Columbia, Alberta, Saskatchewan and Manitoba.

The trend in eastern Canada differs from the west, see *Figure 11(b)* for more details. In the east cow/calf inventories continue to decrease. The elimination of the Canadian Crow's Nest Rate (Western Grain Transportation Act) in 1995 made it more expensive to bring in feed grain from the western provinces and hindered cattle production in eastern Canada. *Section 2.21* has more details on this.

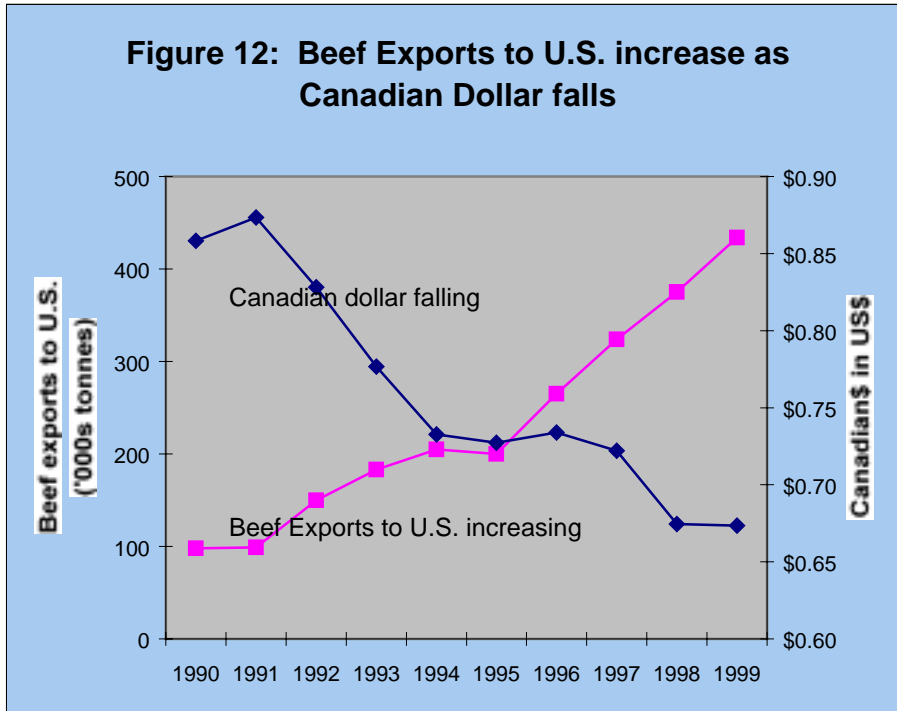


Source: Statistics Canada, Agriculture Division, Livestock and Animal Products Section.

Note: Eastern Canada includes Ontario, Quebec and Atlantic Provinces.

The value of the Canadian dollar could be the most significant factor affecting trade. It is not predictable within a narrow range. As the dollar drops, especially compared to the U.S. dollar, Canadian prices strengthen since the North American commodity price is largely established by the U.S. markets. Canadian imports on the other hand, decrease because the lower dollar value increases relative import product costs for Canada.

Analysis of cattle trade data and exchange rates showed that there wasn't a short-term significant effect on cattle exports to the U.S. This is probably due to the fact that it takes time for cattle producers to respond to exchange rates. However, in the beef industry there is a correlation between the Canada-U.S. exchange rate and beef exports. *Figure 12* demonstrates this effect. Specifically, from 1991-1994 the Canadian dollar fell from US\$ 0.87 to US\$0.73, beef exports went up from 99 to 205 thousand tonnes. Between 1994-95 any changes in the Canadian dollar and beef exports were relatively small. Since then the dollar has fallen significantly, while exports to the U.S. have increased according.



Source: Statistics Canada, Agriculture Division, Livestock and Animal Products Section.

4. Findings and Conclusions

The Canadian and U.S. cattle industry is an example of how markets are becoming global. This industry has integrated with the U.S. whereby, cattle and beef prices, quantities supplied and consumed in one country affect the other. In Canada's case, the impact of the U.S. is much larger. Here are some of the main factors that have been catalysts to the integration of the two countries' cattle and beef sectors.

Free trade agreements such as NAFTA and CUSTA have minimised barriers to trade for producers wanting to sell their goods across their national borders. The reduction, and in some cases elimination, of tariffs, quotas, subsidies and other controls have resulted in one North American market.

The relative importance of the Canadian cattle and beef industries is similar to the U.S. in relation to the total agricultural sector and government programs are relatively small, allowing the two to function as one, integrated market.

The geographic closeness along with the similarity of language and culture of the two countries facilitates a closer business partnership and makes it easier for companies to set up plants across the border. The construction and purchase of Western Canadian packing plants by two large U.S. based companies further integrated the Canadian and U.S. markets into a single market with the supply and demand determining a single price.

Input costs go through similar cycles in the Canada and U.S. For example, the price of feed grains has the same ups and downs as they do in Canada. This results in a similar impact on the two countries' cattle industries that rely so heavily on feed grain.

The cattle cycles for the two countries follow each other. The structure of the cattle and beef industries is alike. This makes for easy integration along the production side. For example, feeder and slaughter cattle that are transported across the borders fit in well with cattle and beef production cycles of both countries since the breeds are similar.

With the exception that Americans have always consumed more beef than Canadians have, consumption patterns are fairly comparable between the two countries. Canada produces more than it consumes and the U.S. is a growing market for beef exports. The American market continues to fuel increased beef production in Canada. Since the U.S. has such a large share of the export market for Canadian beef, it seems that the U.S largely determines cattle and beef prices in Canada.

The Canadian and American cattle industry has undergone some changes as a result of globalisation. There have been re-allocation of resources and increased competition. In the end, the markets of the two countries are functioning as one.

5. Appendix

5.1 Canada—U.S. Trade Agreement (CUSTA)

CUSTA was implemented on January 1, 1989. There are specific provisions in the agreement applying directly to live cattle and beef trade in between both countries.

5.11 Tariff Elimination (Article 401)

Within the trade agreement, Canada and the U.S. agreed to eliminate custom duties in three stages, the last of which ended on January 1, 1998. An agreement between both countries in October 1991 states that duties that affect the import of live bovine animals, beef and veal would be implemented at an accelerated pace. These provisions affected all categories of fresh or chilled beef that were not previously classified as ‘free’ due to tariff reductions. According to the agreement there would be a ‘free’ rate of duty on all forms of fresh, chilled or frozen beef and veal imported from either country, except for frozen boneless beef and veal. However, on July 1993, duties on these products were removed as well.

5.12 Subsidies, Market Access and Technical Regulations

The major components in Chapter 7 of CUSTA deals with subsidies, market access and technical regulations that are aimed directly at agriculture in both countries. In order to undertake a complete impact assessment of CUSTA on the cattle and beef industries, the following key provisions need to be considered:

- Article 701 “Agricultural Subsidies”
- Article 703 “Market Access for Agriculture”
- Article 704 “Market Access for Meat”
- Article 708 “Technical Regulations and Standards for Agricultural...Good”.
- Emergency actions and safeguards

In Article 701, both countries agree to “*achieve, on a global basis, the elimination of all subsidies that distort agricultural trade*”. This agreement is carried over into multilateral trade negotiations. Both Canada and the U.S. agreed not to introduce or maintain any export subsidy on agricultural goods (including meat) which would affect each other. Both countries are required to take into account the interests of the other when using export subsidies in relation to agricultural goods exported to third countries and when providing export subsidies to primary products.

Through the elimination or reduction of import barriers, Article 701 evidences the two countries’ dedication to improve access for agricultural goods in each other’s market.

Both Canada and the U.S. exempt each other from their Meat Import Acts under Article 704. They agreed not to introduce any quantity limits for meats exported from each other. When either of the two countries takes an action involving an external party, which is not counterbalanced by similar action from the other, a quantity import restriction may be placed on imports between the two.¹⁷

Article 708 aims to integrate the regulations and inspections in both Canada and the U.S. Article 708.1 eliminates specific agreements relating to technical regulations for specific agricultural goods, and schedule 10 of this sub-article deals directly with meat inspection procedures and provides in-depth commitment details on harmonisation in this area.

5.13 Emergency Actions

CUSTA provides emergency safeguards for both the U.S. and Canada during the *transition period*^{18, 19}. Under Article XIX of GATT (General Agreement of Tariffs and Trade), temporary safeguard measures (in the form of quotas or surtaxes) may be imposed in circumstances where there is a sudden increase in imports which is causing or threatening to cause serious injury to domestic producers. Both countries agreed to exclude each other from Article XIX actions unless the imports are *substantial*²⁰ and are contributing to the injury being caused or threatened.²¹

A *bilateral track* is established through CUSTA. This helps deal with incidents where the domestic industry of one country, which produces like or directly competitive products, exhibits serious stemming from the increased import flow from a like industry in the other country. The changed trade volume follows the tariff reduction agreed to under CUSTA. Bilateral actions may only remain in place for three years. Furthermore, such an action may only occur once during the *transition period* with respect to a particular good; then the duty would return to the rate which was in place before CUSTA. When a bilateral action is terminated, the rate of duty will return to the rate that would have applied to it but for the safeguard actions.

5.2 North American Free Trade Agreement (NAFTA)

On December 17, 1992, Canada, the U.S. and Mexico signed NAFTA creating a unified North American market. The provisions of NAFTA relating to agriculture are aimed at enhancing those of CUSTA and extending them to Mexico. Items in CUSTA are adjusted in terms of the magnitude with which subsidy provisions are expanded to cover both

¹⁷ These restrictions may be imposed only to the extent and time as is necessary to prevent frustration of the action taken on the imports of meat from third countries. Notification of intentions and actions must be given prior to its commencement.

¹⁸ The *transition period* is January 1, 1989—December 31, 1998.

¹⁹ This is in Chapter 11 of CUSTA.

²⁰ GATT states that imports between 5 and 10 per cent of total imports or less would normally not be considered substantial.

²¹ They have to be contributing importantly, i.e., are an important cause, but not necessarily the most important cause of serious injury of threat thereof.

domestic and export subsidies. NAFTA facilitates the creation of ongoing working groups to monitor and discuss the impact of agricultural subsidies on the economies of each country with methods of notification and consultation on export subsidy expansion.

Annex 702.1 ensures that Articles 701 and 703 of CUSTA and related articles aimed at the cattle and beef industries, will continue to be applied to trade between Canada and the U.S. With respect to Canada and Mexico, there are specific rates of duty provided.

Amendments to the *Customs Tariff*, which is part of the *Act to Implement NAFTA*,²² anticipate that custom duties on all Mexican cattle and beef products imported to Canada, other than boneless frozen beef, will be eliminated through the passing of NAFTA into law. Custom duties on frozen boneless beef from Mexico were eliminated by January 1, 1998.

Inherent safeguards of NAFTA are designed to modify and strengthen those found in CUSTA and to have Mexico in scope. They follow the same format and approach as CUSTA as they establish separate global and bilateral tracks for goods traded.

²² Also known as Bill C-130.

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