



BRIEFING

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The Impacts of Resuming Canadian Cull Cow and Processing Beef Imports on U.S. Cull Cow Prices

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Objective

Analysis

for Informed

Decision Making

Introduction

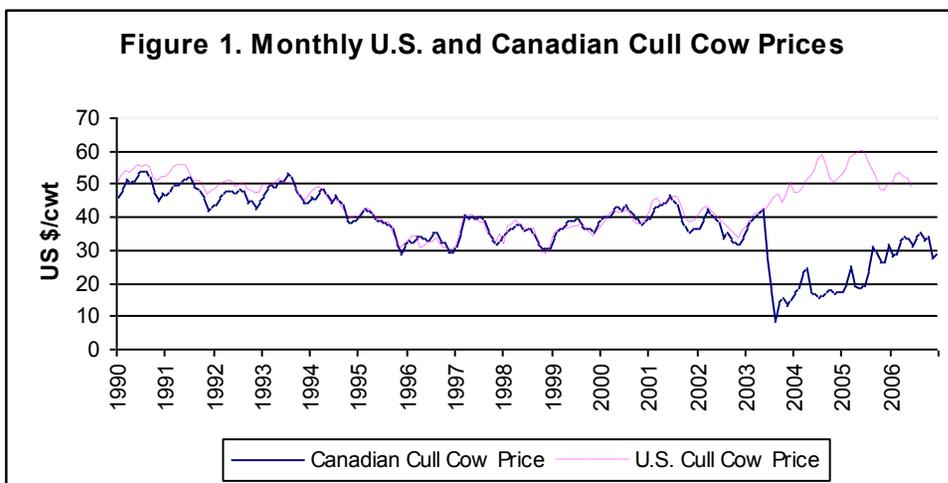
On January 4, 2007, the U.S. Department of Agriculture (USDA) proposed to expand the list of allowable products from countries that present a minimal risk of transmitting bovine spongiform encephalopathy (BSE) into the United States. For all practical purposes, the proposal will allow U.S. beef processors to import Canadian beef cattle that exceed 30 months of age, but borne after March 1, 1999 (the date that Canada imposed a ruminant-to-ruminant feed ban). Imports of these older animals have been banned since the discovery of BSE in Canada in May 2003.

The proposed expansion of allowable beef products will likely increase U.S. imports of Canadian

cull cows, cull bulls, and Canadian processing beef. The combination could potentially reduce U.S. cull cow prices. Changes in U.S. cull cow prices will depend upon the quantity and timing of these imports, and the degree to which processing beef imports from Canada displace processing beef imports from other countries. However, regardless of the form of imports (processing beef or cull cows), the primary consideration is the extent to which the expansion of allowable beef imports increases the supply of processing beef available to U.S. consumers. We evaluate each of these issues in this Briefing Paper.

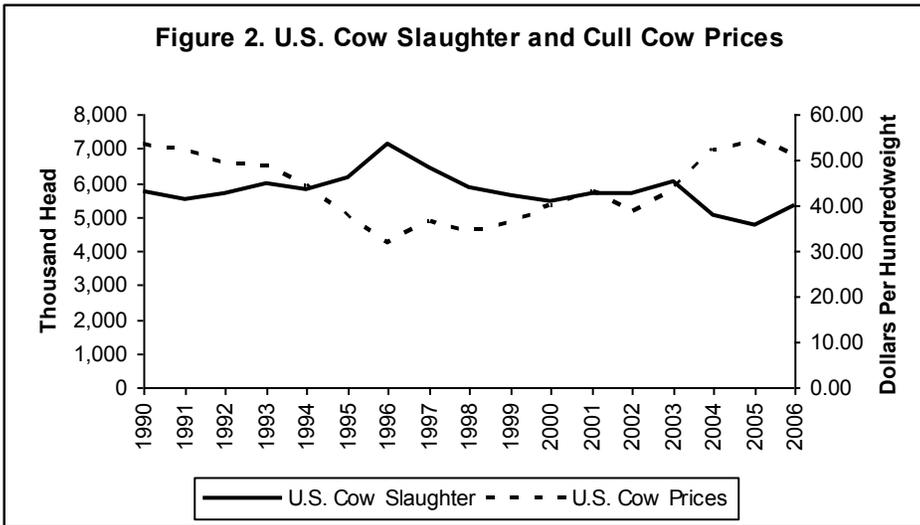
Market Fundamentals

Figure 1 illustrates the relationship between monthly U.S. and Canadian cull cow prices since 1990 (with



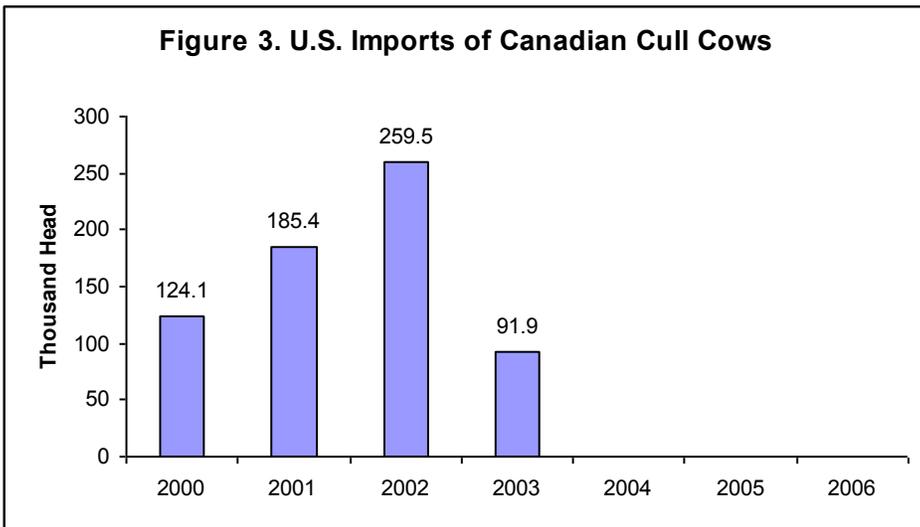
Source: Livestock Marketing Information Center and CanFax

Figure 2. U.S. Cow Slaughter and Cull Cow Prices



Source: Livestock Marketing Information Center

Figure 3. U.S. Imports of Canadian Cull Cows



Source: Livestock Marketing Information Center

Canadian prices converted to U.S. dollar equivalents using monthly U.S./Canadian exchange rates. Note that U.S. and Canadian prices (in U.S. dollar equivalents) were similar until May 2003, when the discovery of BSE in Canada halted U.S. imports of Canadian live cattle, carcasses, and boxed beef. Imports of beef obtained from Canadian cattle less than 30 months of age resumed in August 2003, and imports of Canadian live cattle less than 30 months of age resumed in July 2005. However, beef obtained from older animals

and imports of live animals older than 30 months were not permitted. The result is that, on average, Canadian cull cow prices have been 60% lower than U.S. prices since May 2003.

Cull cow prices in the United States increased from 2002 to 2005 before declining slightly in 2006 (Figure 2). Cull cow prices tend to be inversely related to cow slaughter numbers. Cow slaughter in the United States declined from 7.1 million head in 1996 to 5.3 million head in 2006. This reduction

corresponded to a decline in U.S. cattle inventories from 103.5 million head in 1996 to 96.7 million head in 2006. Conversely, the Canadian cattle industry expanded between 1996 and 2006. Canadian cattle inventories totaled 13.4 million head in January 1996, and 14.8 million head in January 2006. Thus, the Canadian cattle industry is approximately 14% the size of the U.S. industry.

Between 2000 and 2002, U.S. imports of Canadian cull cows averaged 190 thousand head and represented about 3% of U.S. cow slaughter (figure 3). The loss of these imports in May 2003 accounted for 11% of the overall reduction in U.S. cow slaughter that occurred between 2003 and 2006.

The United States also imports processing beef from Canada. Some is obtained from fed cattle and some from cull cows and bulls. Figure 4 presents the amount of processing beef imports from Canada, the amount of processing beef imports from countries other than Canada, and the amount of processing beef obtained from imports of Canadian cull cows. Total annual U.S. imports of processing beef averaged about 2.4 billion pounds between 1999 and 2006.

The United States imported approximately 78 million pounds of processing beef from Canada in 2002 which was the last full year of normal trade relations (figure 4). An additional 176 million pounds of processing beef were imported from Canada in the form of live cull cows in that year.

Apart from Canada, four countries (Australia, New Zealand, Argentina, and Uruguay) are major sources of U.S. beef imports. Almost all of these imports are used to produce ground beef. The 1995 Uruguay Round Agricultural Agreement

(URAA) altered the Meat Import Act of 1964 and its amendments by converting U.S. import quotas for fresh, chilled, or frozen beef and veal to tariff rate quotas. A 10% in-quota *ad valorem* tariff was established for fresh and frozen boneless beef. The over-quota tariff was set at 31.1% for 1995. By 2006, the in-quota tariff had been reduced to 4.9% and the over-quota tariff had been reduced to 26.4%.

Total U.S. beef imports from New Zealand and Central American countries have been relatively flat over the past several years.

Recently, modest increases in imports from Argentina have generally offset small decreases in imports from Australia. In addition, annual carcass weight beef imports from Uruguay averaged 54.6 million pounds between 1996 and 2003 (figure 5). This amount is virtually equivalent to the tariff rate quota (TRQ) assigned to Uruguay by the URAA. However, beginning in 2003, imports of beef from Uruguay increased substantially and averaged 415.5 million pounds between 2004 and 2006 (figure 5). Most of these imports exceed Uruguay's TRQ. Thus, increased U.S. imports of beef from Uruguay have more than offset decreased imports from Canada (including the decline in Canadian cull cow imports). It is also likely that Uruguay processing beef imports are more expensive than similar imports from Canada because of added transportation costs and over-quota tariffs. Moreover, imports of Uruguayan beef by U.S. processors did not appreciably exceed Uruguay's TRQ until 2003, when beef imports from Canada were halted.

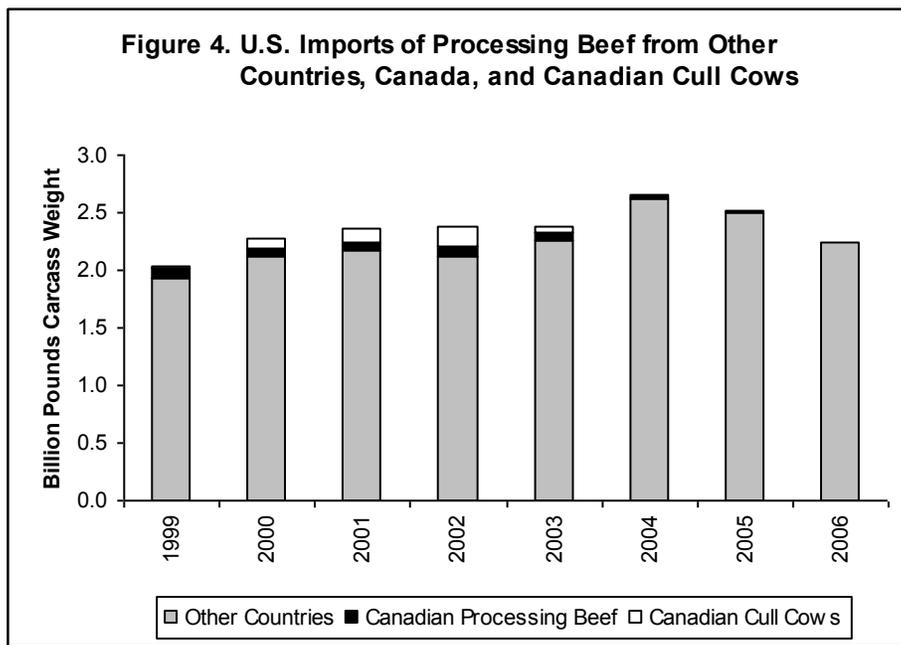
Finally, the closure of the U.S. border to Canadian cattle and beef imports prompted increases in Canadian slaughter capacity. Canadian slaughter capacity increased from 72,000 head per week in January 2004 to 105,000 head per

week in January 2006. Increased slaughter capacity coupled with the loss of access to the U.S. market caused Canadian cow slaughter to increase by about 33% -- from 500,000 head in 2002 to 676,000 head in 2006.

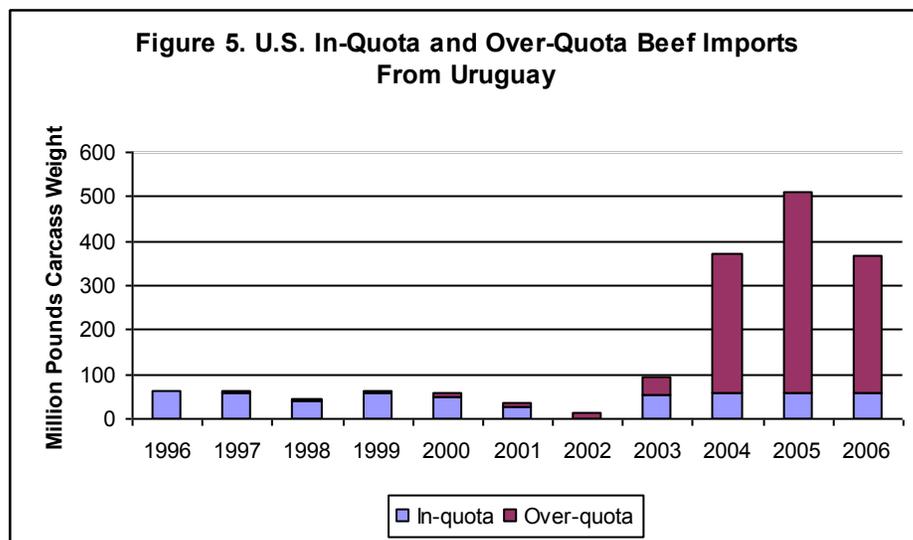
Effects of Re-Establishing U.S. Imports of Canadian Cull Cows and Processing Beef

The removal of import restrictions on Canadian cull cow and processing beef imports may increase the total

amount of beef available to U.S. consumers. If this increase in supply replaces a similar amount of beef imports from other sources (e.g., Uruguay), then U.S. cull cow and resulting processing beef prices will be largely unaffected. In fact, if Canadian processing beef (either in the form of cull cows or meat) is less expensive than imports from other countries, the price of U.S. ground beef would decline. Given that the consumption of ground beef is relatively sensitive to its price, a small reduction in price



Source: United States International Trade Commission



Source: United States International Trade Commission

could increase total consumer expenditures on ground beef (Brester and Wohlgenant).

It is also possible that imports of Canadian cull cows and processing beef will increase U.S. beef supplies without displacing beef imports from other countries. This scenario would result in the largest potential negative effects on U.S. cull cow prices. To evaluate these effects, a statistical regression model was estimated to obtain a price flexibility for U.S. cull cows of -0.903. This estimate indicates that a 1% increase in processing beef production would reduce U.S. cull cow prices by 0.903%. In addition, because ground beef is a substitute for table cuts of beef, it is possible that an increase in the supply of processing beef could reduce fed cattle and feeder cattle prices. We consider these effects using two scenarios.

The first scenario assumes that imports of Canadian cull cows and processing beef return to pre-2003 levels, and that these imports do not displace processing beef imports from other sources. In terms of live cow equivalents, U.S. imports of Canadian processing beef and cull cows averaged

200,199 head between 2000 and 2002. This represents 3.6% of U.S. cull cow slaughter over the same period. Table 1 presents estimates of the average change in U.S. cull cow prices based upon the 2006 average U.S. cull cow price of \$47.56/cwt. The reduction in cull cow prices is estimated to be \$1.55/cwt. In addition, the net increase in processing beef supply would reduce fed cattle prices by \$0.49/cwt and feeder cattle prices by \$0.82/cwt.

The above scenario assumes that U.S. imports of Canadian cull cows and/or processing beef return to pre-2003 levels, but do not displace imports from other countries. However, figure 5 indicates that imports of processing beef from Uruguay increased substantially since 2003 and have apparently replaced imports of beef from Canada. Larger transportation costs and over-quota import tariffs may mean that U.S. imports of Uruguayan beef will be more expensive than imports of Canadian beef. Therefore, it seems likely that increased U.S. access to Canadian processing beef will cause at least some displacement of beef imports from Uruguay. Therefore, our second scenario assumes that one-

half of the increase in U.S. imports of Canadian cull cows and processing beef displaces beef imports from Uruguay. This results in a 1.8% increase in U.S. cull cow slaughter. Table 1 indicates that this increase in beef supplies would reduce U.S. cull cow prices by \$0.78/cwt. In addition, this scenario would reduce fed cattle prices by \$0.25/cwt and feeder cattle prices by \$0.41/cwt.

The Role of Seasonality on Cull Cow Prices

U.S. cull cow slaughter is highly seasonal because most beef calves are born in the spring of each year, and cow retention decisions are generally made in early- to late-fall (figure 6). Some cull cows are fed high protein rations for a few months following the culling decision. Consequently, average monthly U.S. cull cow slaughter is largest in the months of October, November, December, and January -- the period in which cull cow prices are typically lowest (figure 7). Data limitations prevent an analysis of whether cull cow prices respond differently to changes in slaughter cow numbers on a monthly versus annual basis. However, the impacts of changes in U.S. cow producer total revenues can be estimated on a monthly basis.

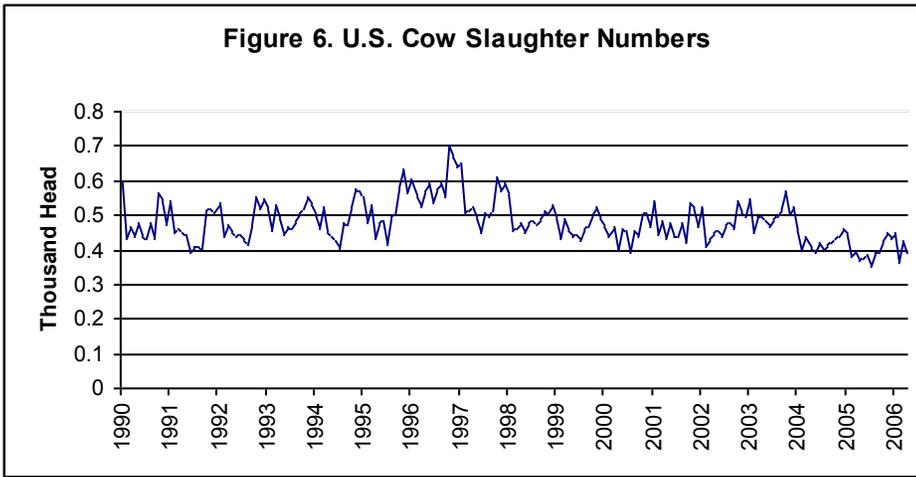
Monthly U.S. cow slaughter averaged 488,000 head in the months of October, November, December, and January over the 2000-2006 period, and 434,000 head in the other months. In addition, annual live cow slaughter weights averaged 1,050 pounds over the 2000-2006 period. Using the estimates reported in Table 1 for the first scenario, total revenue would decline by an average of \$7,942,000 per month if increased imports occurred during the months of October, November, December, and January. However, average monthly

Table 1: Impacts of U.S. Imports of Canadian Cull Cows and Processing Beef on U.S. Cull Cow Prices and Average Monthly Cow Producer Revenue

Estimate	Scenario 1	Scenario 2
Change In Cull Cow Price ^a	-\$1.55/cwt	-\$0.78/cwt
Change In Cow Average Monthly Cow Producer Revenue (Jan, Oct, Nov, Dec)	-\$7,942,000	-\$3,971,000
Change In Cow Average Monthly Cow Producer Revenue (Feb - Sept)	-\$7,063,000	-\$3,532,000

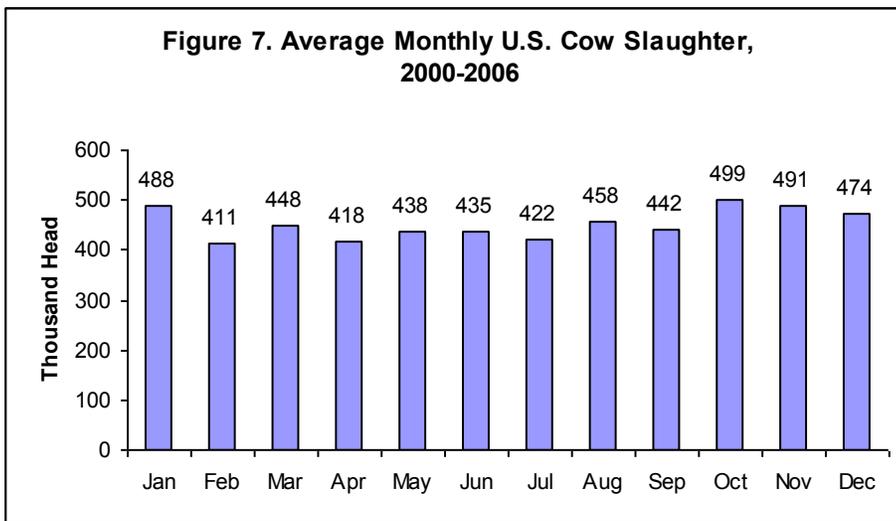
^a The 95% confidence interval for the estimated change in U.S. cull cow prices is (-\$2.05/cwt, -\$1.04/cwt) for Scenario 1, and (-\$1.03/cwt, -\$0.52/cwt) for Scenario 2.

Figure 6. U.S. Cow Slaughter Numbers



Source: Livestock Marketing Information Center

Figure 7. Average Monthly U.S. Cow Slaughter, 2000-2006



Source: Livestock Marketing Information Center

total revenue would decline by a smaller amount (\$7,063,000 per month) if increased imports occurred during the February through September period.

For scenario 2, a similar picture emerges. Total revenue would decline by an average of \$3,971,000 per month if increased imports occurred during the months of October, November, December, and January (table 1). Average monthly total revenue would decline by a smaller amount (\$3,532,000 per month) if increased imports occurred during the February through September period.

Summary

A USDA proposal to allow U.S. imports of Canadian beef cattle older than 30 months (and processing beef from these older animals) has generated concern among some U.S. cattle producers. The primary issue is whether or not the expansion of allowable beef imports will reduce U.S. cull cow prices. The ultimate impact of this trade action depends to a great extent on whether it causes a net increase in U.S. beef supplies, or whether imports from Canada simply replace imports from other countries. It seems likely that the latter will occur. If so, the USDA proposal will have little impact on U.S. cull cow prices. However, if

this trade policy initiative increases U.S. beef supplies, then U.S. cull cow prices may decline by \$1.55/cwt if imports are not displaced, or \$0.78/cwt if one-half of U.S. imports of Canadian cull cows and processing beef displaces beef imports from other sources. In addition, the timing of increased imports could influence total revenues received by U.S. cattle producers. Smaller revenue reductions would occur if increased imports occurred during the months of February through September. Finally, the above estimates assume that beef demand by U.S. consumers is not adversely affected by the prospect of additional imports from a region which has a relatively higher prevalence of confirmed BSE cases than the United States.

Given transportation cost structures, over-quota import tariffs, and market actions prior to 2003, it seems likely that additional U.S. imports of Canadian cull cows and processing beef will simply displace processing beef imports from other countries. In addition, the ability to import Canadian cull cows may allow U.S. cow slaughtering plants to operate more efficiently, which would have positive effects on U.S. cattle prices. The proposed trade initiative could also help U.S. negotiators re-open important U.S. beef export markets. Furthermore, some researchers have estimated that the consumption of ground beef is relatively responsive to its price. Consequently, small declines in the U.S. price of ground beef could increase U.S. consumer expenditures on that product as consumers substitute away from other meat products.

For More Information:

Brester, Gary W., and Michael K. Wohlgenant. "Estimating Interrelated Demands for Meat Using New Measures for Ground and Table Cut Beef." *American Journal of Agricultural Economics*. 73 (November 1991):1182-1194.



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