International Agricultural Trade and Policy Center

AN ECONOMIC ASSESSMENT OF BOVINE SPONGIFORM ENCEPHALOPATHY (BSE) AND THE U.S. CATTLE AND BEEF INDUSTRY

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INTERNATIONAL AGRICULTURAL TRADE AND POLICY CENTER

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An Economic Assessment of Bovine Spongiform Encephalopathy (BSE) and the United States Cattle and Beef Industries

John J. VanSickle & Alan W. Hodges [1]

Prior to 1990, imports of Canadian live cattle were limited to quantitative restrictions under the U.S. Meat Import Act (MIA) of 1979. Following the implementation of the Canadian-U.S. Trade Agreement (CUSTA) in 1989, Canadian beef became exempt from the formula-based quantity restrictions of the MIA. Imports of Canadian cattle grew and reached a peak in 2002 when the imports reached 1.68 million head (figure 1). In May 2003, as a result of bovine spongiform encephalopathy (BSE) being discovered in a native-born Canadian animal, the United States Department of Agriculture (USDA) placed a ban on all imports of live cattle and beef from Canada. This occurred at a time when the slaughter of native U.S. animals in the United States was declining because of depressed cattle prices and severe droughts that had killed grass in many of the key cow calf producing areas and made it more expensive to maintain cattle herds. As a result, U.S. cattle herd size declined from 103.5 million head in 1996 to 95.8 million head in 2005. Cattle slaughter in the U.S. also declined from a peak of 35.6 million head in 2000 to 34.9 million head in 2003 and 32.1 million head in 2004 (figure 2).

It is incorrect to attribute higher beef prices in the U.S. exclusively to the fact that in May 2003 USDA prohibited imports of live Canadian cattle and placed some limits on importing Canadian beef. Canada exported 1.68 million head of cattle in 2002 (figure 1) (mostly to the U.S.) which is far less than the 2.8 million head decline in U.S. cattle slaughter from 2003 to 2004. It is also notable that imports of Canadian beef and veal increased to a record value of $1.18 billion in 2004 (figure 3). June 2004 retail beef prices averaged $4.25 per pound, slightly less than the $4.32 in November 2003, six months after Canadian cattle and all but boneless Canadian boxed beef were first removed from the market.[2] These domestic higher prices are being realized in a period when import volumes of Canadian boxed beef remain at or above pre-Canada BSE levels and U.S. exports to most of the U.S. key export markets have been stopped because of the discovery of BSE in a Canadian animal in Washington state. Exports of U.S. beef declined from 2.5 billion pounds in 2003 to 488 million pounds in 2004, costing the U.S. beef industry $3.18 to $4.88 billion.[3] The U.S. beef industry is seeing higher prices even in the face of the loss of key export markets such as Japan and South Korea because of the combined effect of lower U.S. production and the ban on imports of Canadian cattle and some beef in the U.S. market.

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[2] Ironically, the USDA Inspector General issued a report in February 2005 that documented in detail that USDA had secretly allowed additional Canadian beef products such as bone-in and ground meat to be imported.

[3] Coffey et al. "The Economic Impact of BSE on the U.S. Beef Industry: Product Value Losses, Regulatory Costs, and Consumer Reactions." Kansas State University. April 2005. @ 29-30.

USDA Secretary Johanns suggested in a recent press conference that continued closure of the border with Canada is causing the Canadian industry to build processing capacity and move the industry north of the border[4]. His claims are that U.S. producers are losing business and that workers are losing jobs because processors do not have access to Canadian cattle.

The first questionable assumption in his argument is how much real growth in processing capacity is occurring in Canada as a result of the border closure. Following the removal of quantitative Canadian beef export restrictions to the United States under the CUSTA, U.S. multinationals made large investments in Alberta, Canada, to expand existing slaughter facilities. Alberta feedlot operators began expanding their herds in anticipation of the increased demand for finished cattle. Moreover, Canadian cattlemen in the western provinces, particularly Alberta, began expanding their herds during 1994-95, in part due to anticipation of expanding slaughter facilities in Alberta, scheduled to begin operations in 1996-97. Insufficient Canadian slaughter capacity due to delays in the expanded slaughter plants led to Canadian ranchers selling large numbers of livestock to U.S. processors and packers in 1996 and 1997 (figure 1). In large part, slaughter capacity began to expand with the implementation of CUSTA.

A January 2005 article published by the Cattlemen Journal outlined what it called "Canada's New Packing House Map." The article detailed the packing house sector of Canada and documented the changes that are taking place. An analysis of the specific packing plants noted in the article indicates that Canada currently has a daily kill capacity of 15,390 animals with expansion under construction adding capacity by another 6,440 animals (figure 4). The article noted that another 3,560 head of kill capacity was being discussed in areas across Canada, bringing their total potential kill capacity to 25,390 cattle if all current construction and construction being discussed occurs. While this represents a 67% increase in daily kill capacity, it should be noted that most of this capacity has been built for cows and bulls over the age of 30 months that will not be allowed in under the new rule as published. It is questionable whether the new rule would have altered these expansion plans.

It should also be noted that this represents a small part of what the Secretary notes is a 'North American Cattle Industry.' The top 5 beef processing companies in the U.S. have a daily kill capacity of 103,500 animals. The top 30 beef processing companies in the U.S. had a daily kill capacity of 128,745 in 1999 (figure 5). It would appear that while the kill capacity of the Canadian beef processing industry is increasing, most of that added capacity was started prior to the 2003 border closure and is being built to handle older cows and bulls that will not be allowed in under the proposed rule. The added capacity that is currently under construction represents roughly 40% of the current Canadian processing capacity. However, the added processing capacity in Canada is less than 5% of the current capacity of Canada combined with the capacity of the top 30 U.S.

[4] Tele-News Conference with Agriculture Secretary Mike Johanns Regarding the closed Canadian border and the impact on the beef industry - Hyrum, Utah - May 17, 2005. Transcript available at http://www.usda.gov/wps/portal

processors in 1999. The growth in capacity in Canada is small relative to the larger industry already in place in Canada and the U.S.

In the short run, Secretary Johanns may be right in that some U.S. processors who relied on Canadian cattle imports may be having trouble keeping their plants running at an efficient capacity. The Secretary ignores, however, the larger impacts on the economy. We can first take note of the fact that competition in the beef processing industry is at a peak at this point in time because of the lower production of animals for slaughter by U.S. cattle producers. As previously noted, U.S. cattle slaughter declined 2.8 million head in 2004 when compared to 2003. This decrease included the loss of 1.68 million head of imports from Canada and has caused the U.S. beef processing industry to operate at less than full capacity, which has created increased competition for cattle from U.S. feedlots.

The loss of imports from Canada has two opposing impacts on the U.S. economy. First, the reduction in the number of cattle handled by U.S. processors will lead to a loss in economic output by this sector and result in losses of jobs for the U.S. packers that process Canadian cattle. On the other hand, U.S. cattle producers will have more income and likely will increase herd size. An increase in the U.S. cattle herd will lead to more domestic cattle being processed by U.S. processors and added jobs for those processors.

An economic impact analysis was completed to account for the opposing forces that are impacting the cattle and beef industries. Results of the impact analysis of resuming imports of Canadian cattle into the U.S. are contained in table 1. This analysis was done using data contained in the USDA economic analysis of the proposed rule. Our analysis, using USDA data, shows a decrease in value of U.S. cattle due to competition from lower value Canadian cattle. Our analysis shows a corresponding increase in total value of U.S. packers' output primarily due to increased cattle supply from Canada. We extend our analysis beyond what USDA has done by calculating the net effect of resuming imports from Canada, which is simply the sum of the impacts of the USDA action on the U.S. cattle producers and the U.S. meat packers. The impact estimates were calculated using a U.S. Input-Output (I-O) model[5] constructed with Social Accounting Matrix (SAM) multipliers, with all social accounts included, such that transfer payments are captured. The analysis of increased packer output due to increased supply coming from Canada was done by setting the regional purchase coefficient (RPC) for cattle to zero, forcing the model to import cattle for slaughter. The changes in values for 2005, 2006 and 2007 were entered into the model separately, and were first deflated to 2002 dollars to be consistent with the model year information, and then impact results were restated in 2005 dollars.

Overall results of our analysis of resuming imports of Canadian cattle into the U.S. (presented in table 1) indicate a net decline of $7.56 billion in U.S. economic output, a decline of 68,442 jobs, and a decline of $3.57 billion in value added, including $2.26 billion in labor income and $294 million in indirect business taxes.

The impacts are separated in our analysis to show the impact due to increased cattle imports from Canada and the impact from decreased production by U.S. cattle

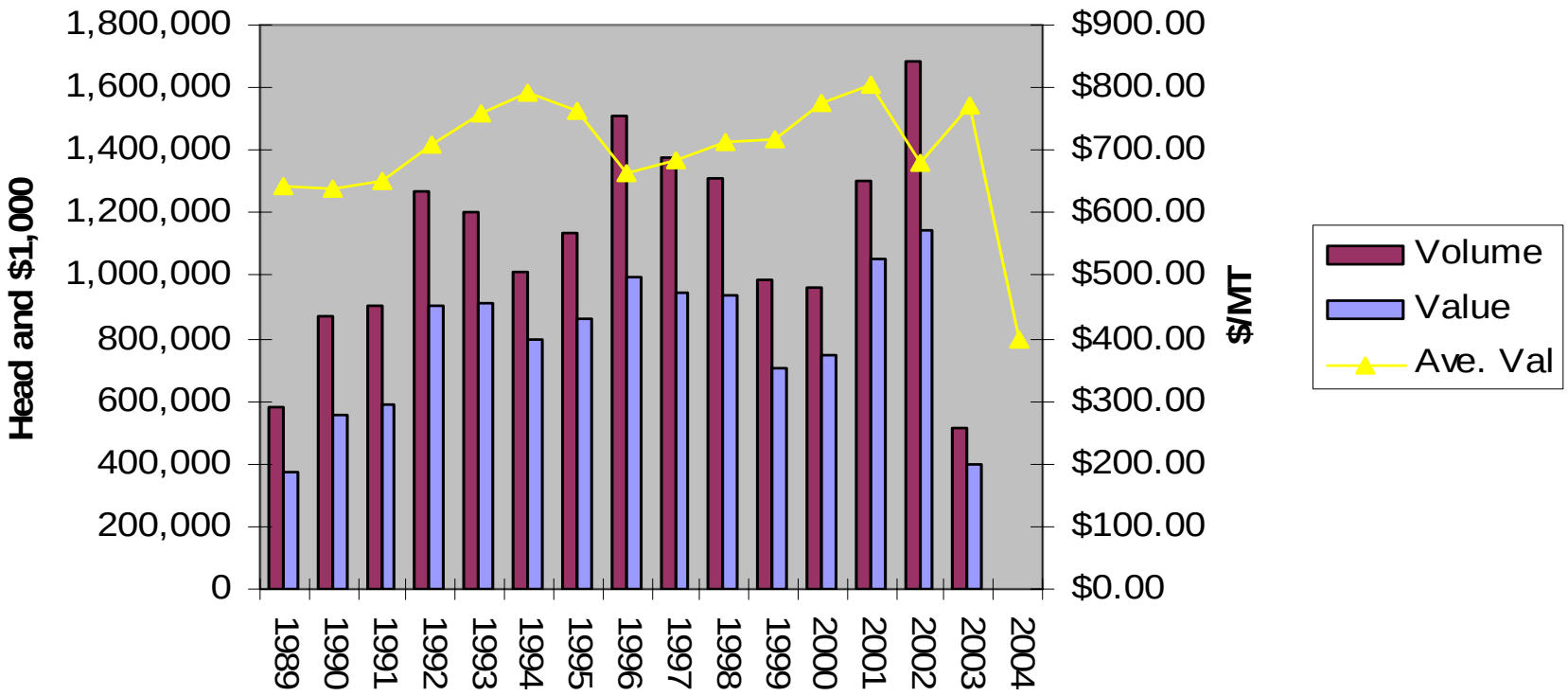
[5] *Implan Pro*, MIG, Inc., Stillwater, MN, 2005.

producers. The impact of reduced output from U.S. cattle producers due to resumed Canadian imports was estimated as a loss of $12.83 billion in economic output, while the impact of increased slaughter output due to increased supply of Canadian cattle was an increase of $5.26 billion in economic output. Results are provided for direct, indirect and induced effects, and are available for major industry groups. The direct effects represent the change in output of the U.S meat packers and cattle producers, indirect effects represent changes in other supplier industries, and induced effects represent changes in income and spending by industry employees. The results indicate that there will be some elements of the economy that depend on imported Canadian cattle slaughtered in U.S. packing facilities that will decline if the border remains closed, but that loss to the U.S. economy is more than offset by the gains that are expected from increased production of domestic cattle, and from those U.S cattle being processed into beef, to total a net gain of $7.56 billion in output value over the 2005 to 2007 period.

The other impact that BSE has caused to the beef and cattle industries is the resulting loss of export markets following the discovery of a BSE-infected cow of Canadian origin in Washington state in December, 2003. As noted above, U.S. beef exports have declined, from 2.8 billion pounds in 2003 to 488 million pounds in 2004. Kansas State University recently published an analysis of the impact that the loss of export markets has had on the U.S. beef industry. The Kansas State report indicates that the decline in exports of carcass beef (or more commonly meat) has cost the U.S. beef industry between $2.86 billion and $4.22 billion in losses. Dramatic declines in exports of offal have cost the industry an additional $319 million to $448 million, bringing the total cost to U.S. producers from lost exports to between $3.18 and $4.66 billion. Clearly, the economic impact of the discovery of the BSE-infected Canadian cow in the U.S. is costing U.S. cattle producers. The new rule proposed by USDA will increase those negative impacts by encouraging the economic displacement of U.S. cattle producers by Canadian cattle producers, whose cattle are less expensive because of international import bans because of BSE in Canada.

To summarize, lost exports have already cost the U.S. cattle and beef industries $3.18 to $4.66 billion. Beef and cattle prices remain high despite a steadily growing supply of imported beef and the continuing loss of export markets for U.S. beef. The impact of lost exports would be even more significant to U.S. cattle producers if market prices were not higher because of the current reduced size of the U.S. cattle herd and the current ban on imports of live Canadian cattle. Allowing imports to come in as specified in the USDA's final BSE minimal risk region rule would magnify the impacts of lost beef export markets on the U.S. economy by another $7.56 billion over the period 2005 to 2007. The current ban on importing Canadian cattle is hurting some U.S. beef processors, but their impacts are more than offset by the gains to producers and processors of U.S. cattle and beef. It must also be noted that these impacts do not account for the increased risk of potential BSE-infected cattle as a result of importing live cattle and beef from Canada.

Figure 1. Canadian Cattle and Calves, Imports, Value and Average Import Value, 1989 to 2004



Source: USDA Foreign Agricultural Trade Database. http://www.fas.usda.gov/ustrade/USTImFatus.asp?QI=

Figure 2. Annual US Cattle Slaughter, 1980 - 2004: 1,000 head

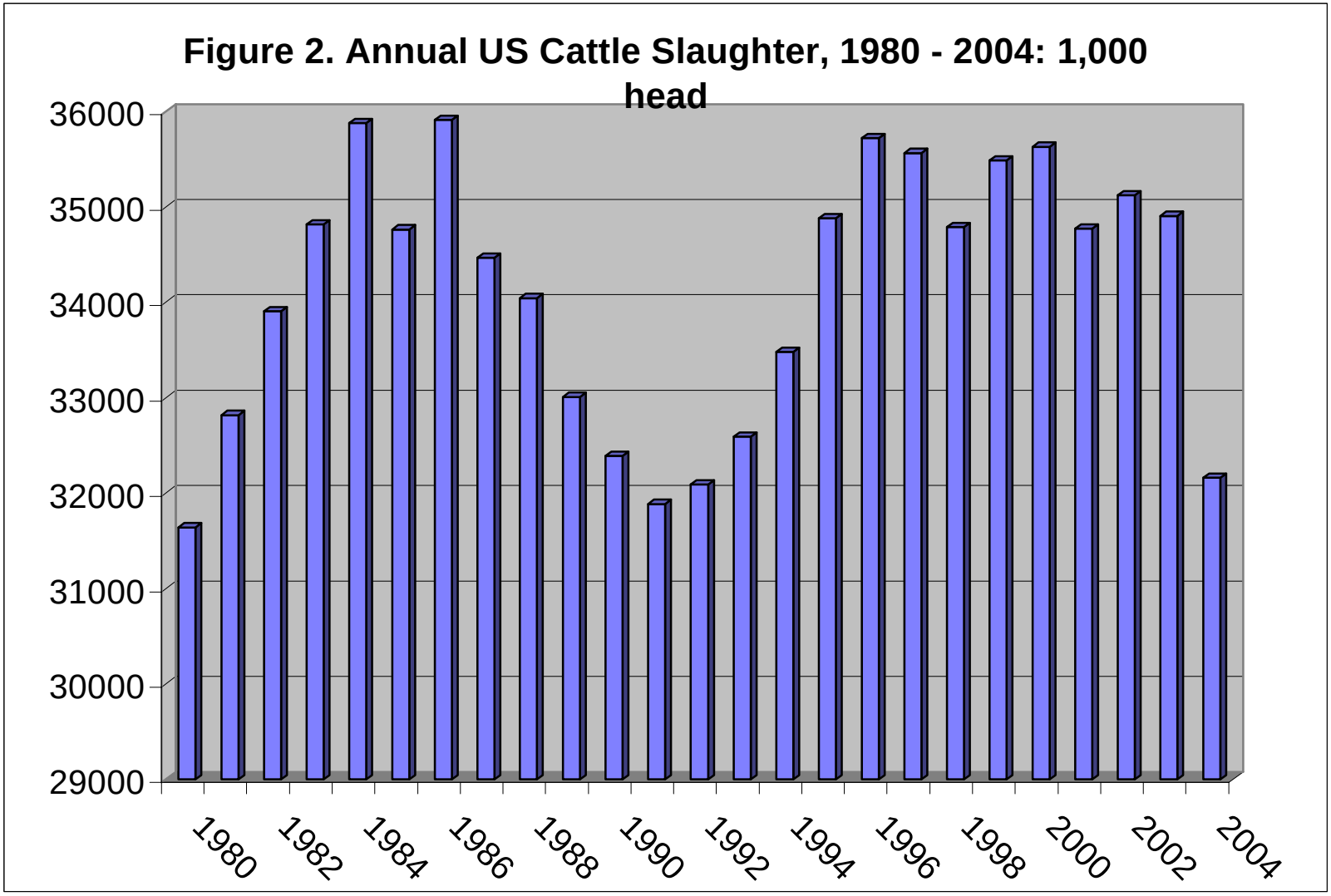
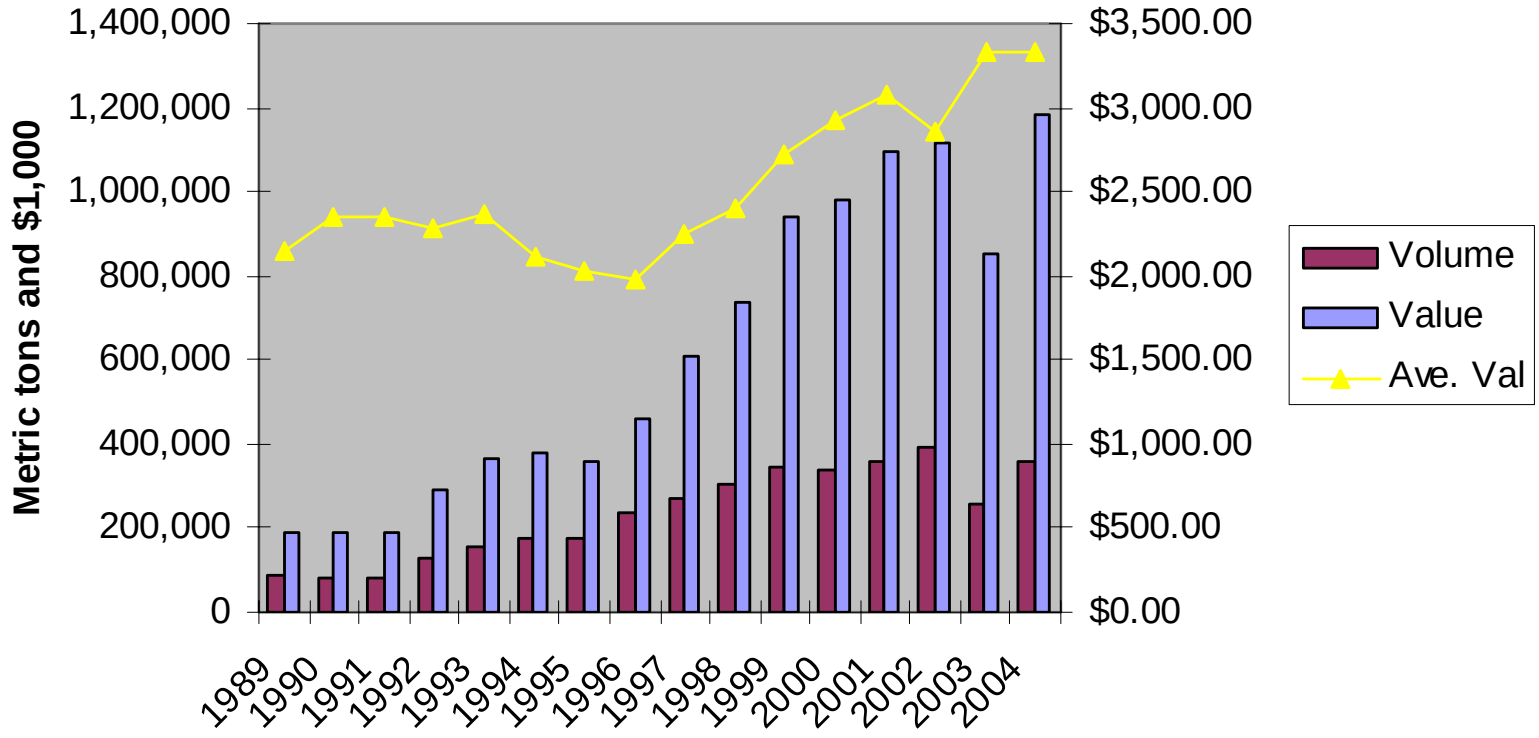


Figure 3. Beef and Veal Imports, Total Value and Average Value, 1989 to 2004



Source: USDA Foreign Agricultural Trade Database. http://www.fas.usda.gov/ustrade/USTImFatus.asp?QI=

Figure 4. Canada's Current Daily Kill Capacity, Expansion Under Construction and Expansion Being Discussed.

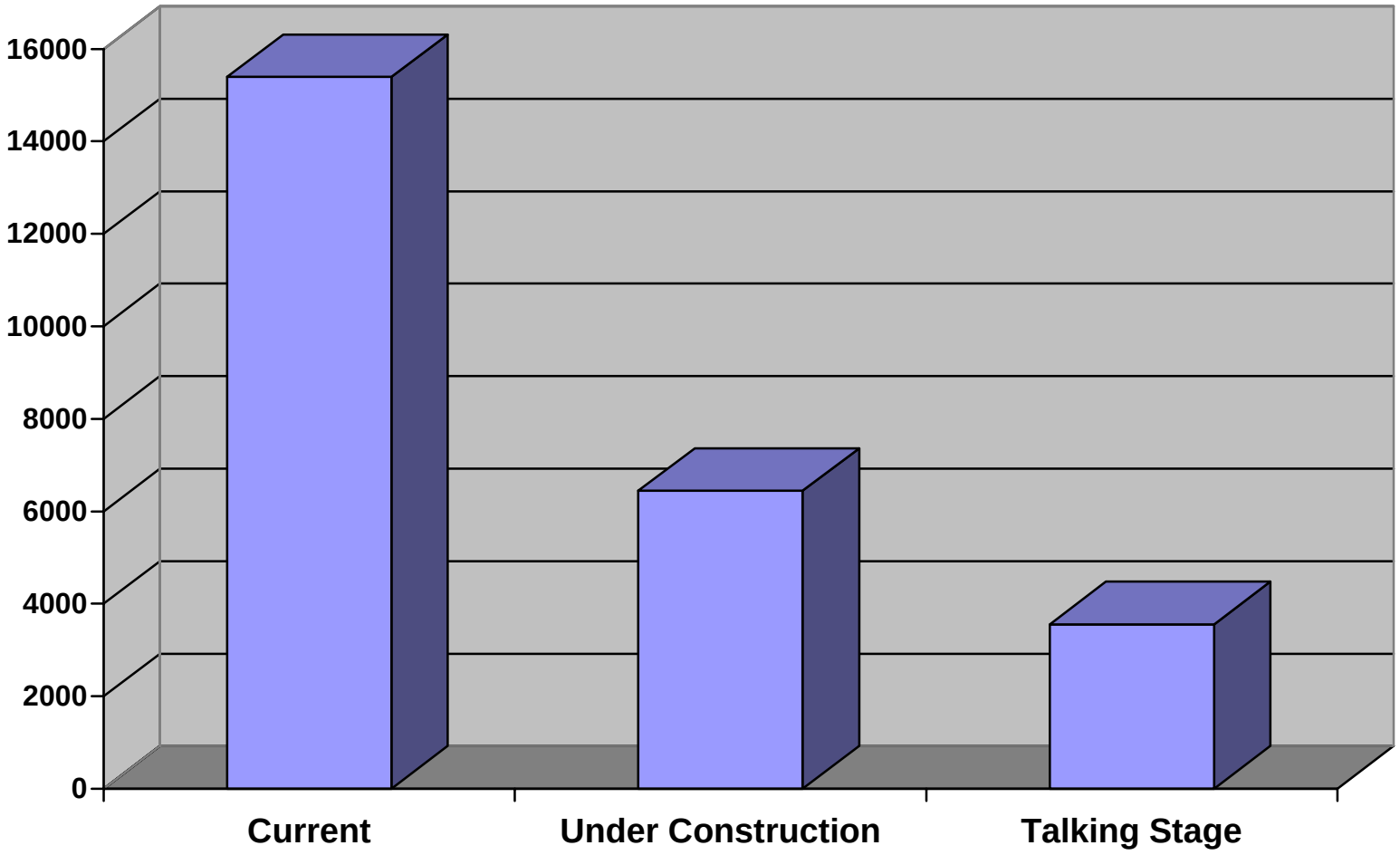


Figure 5. Daily Kill Capacity in Canada and the U.S.

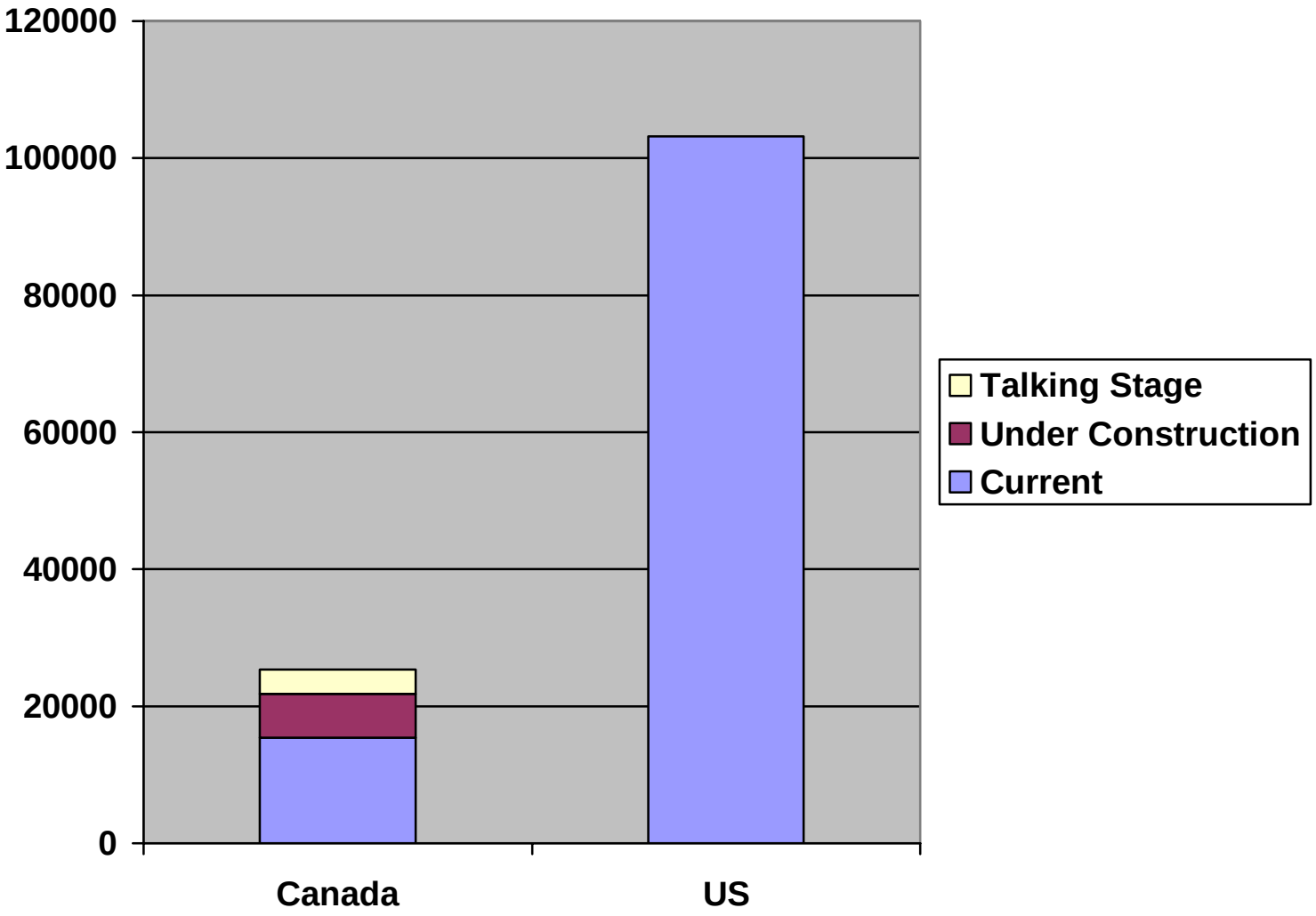


Table 1. Economic Impacts on the US Cattle Slaughter Market from Canadian Imports (2005-07)

	Impact of Reduced US Cattle Slaughtered				Impact of Increased Supply				Net Impact on US Slaughter Market			
Impact	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total	Direct	Indirect	Induced	Total
Output*	-1,967	-4,037	-6,829	-12,833	1,478	1,166	2,625	5,269	-489	-2,871	-4,204	-7,564
Employment (Jobs)	-5,203	-42,182	-61,890	-109,275	3,909	13,149	23,774	40,832	-1,293	-29,033	-38,116	-68,442
Value Added*	-238	-1,519	-4,065	-5,822	179	508	1,568	2,254	-59	-1,012	-2,496	-3,568
Labor Income*	-198	-849	-2,701	-3,748	149	301	1,040	1,490	-49	-548	-1,661	-2,259
Indirect Business Taxes*	-18	-158	-290	-466	13	46	112	172	-4	-112	-178	-294

*Millions 2005 Dollars

Impacts estimated for *Implan* slaughter sector (67) with type SAM multipliers
Source: *Implan* software and U.S. data for 2002 (MIG, Inc, 2005)

Figure 6. Canada Monthly Direct Sales Steer Prices, 2002-2004

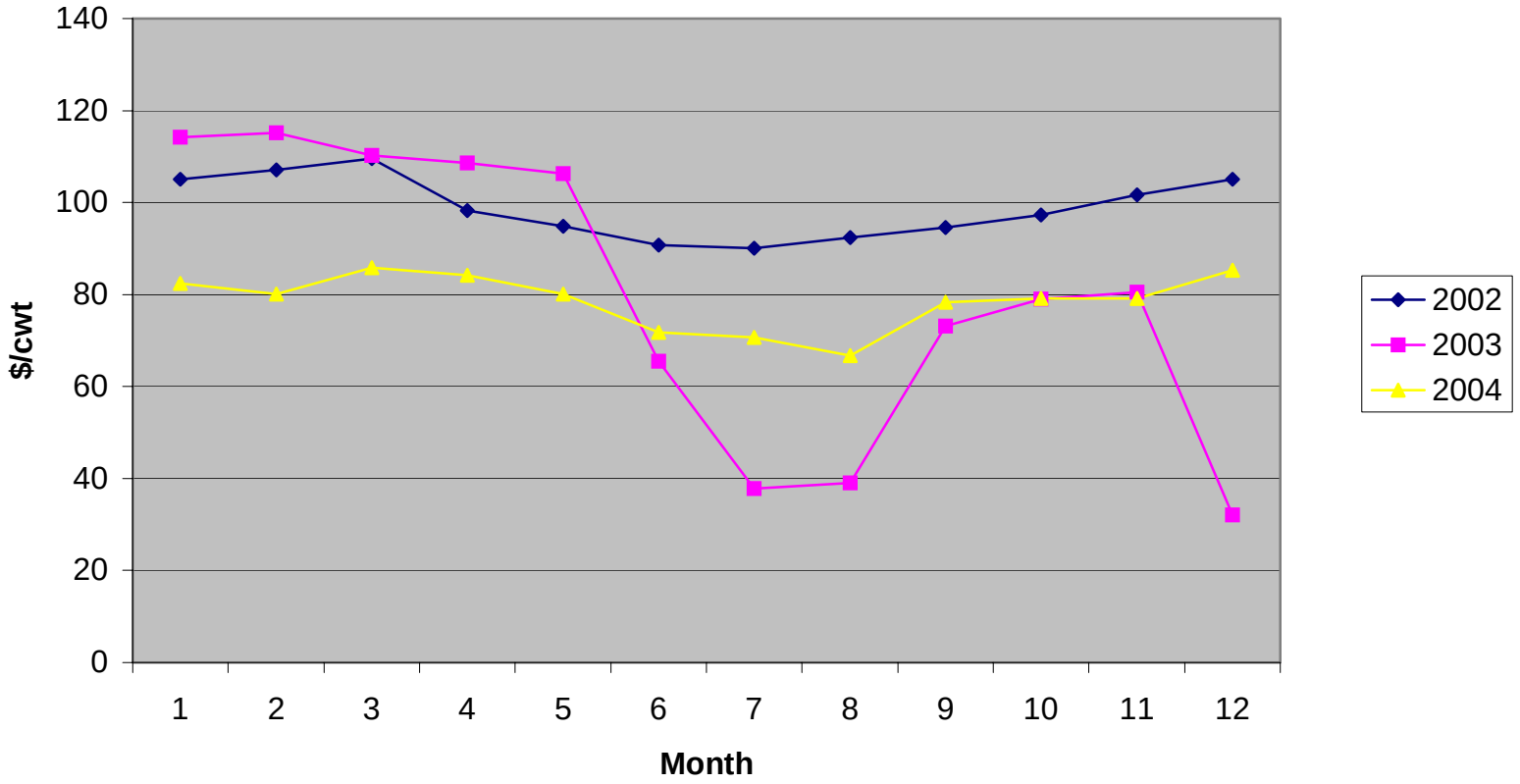


Figure 7. Beef Cattle on Canadian Farms, 1995 to 2004, 1,000 head