

Structural Implications of Persistent Disharmony in North American Beef and Pork Industries

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Issue

NAFTA began January 1, 1994.

- 11 years later North American pork and beef industries are in substantial disharmony
- Canadian/US border closed to live cattle trade
- On-going anti-dumping / countervailing duties court battle in hog and pork trade

Goals of our Presentation

- Demonstrate the nature of beef and pork trade disharmony
- Provide economic measures of adverse impacts
- Consider potential policy responses

US – Canadian Cattle / Beef Border

2003:

May: BSE discovery in Alberta – US border shut

August: US border opens to Canadian boneless boxed beef from cattle <30 months

2005:

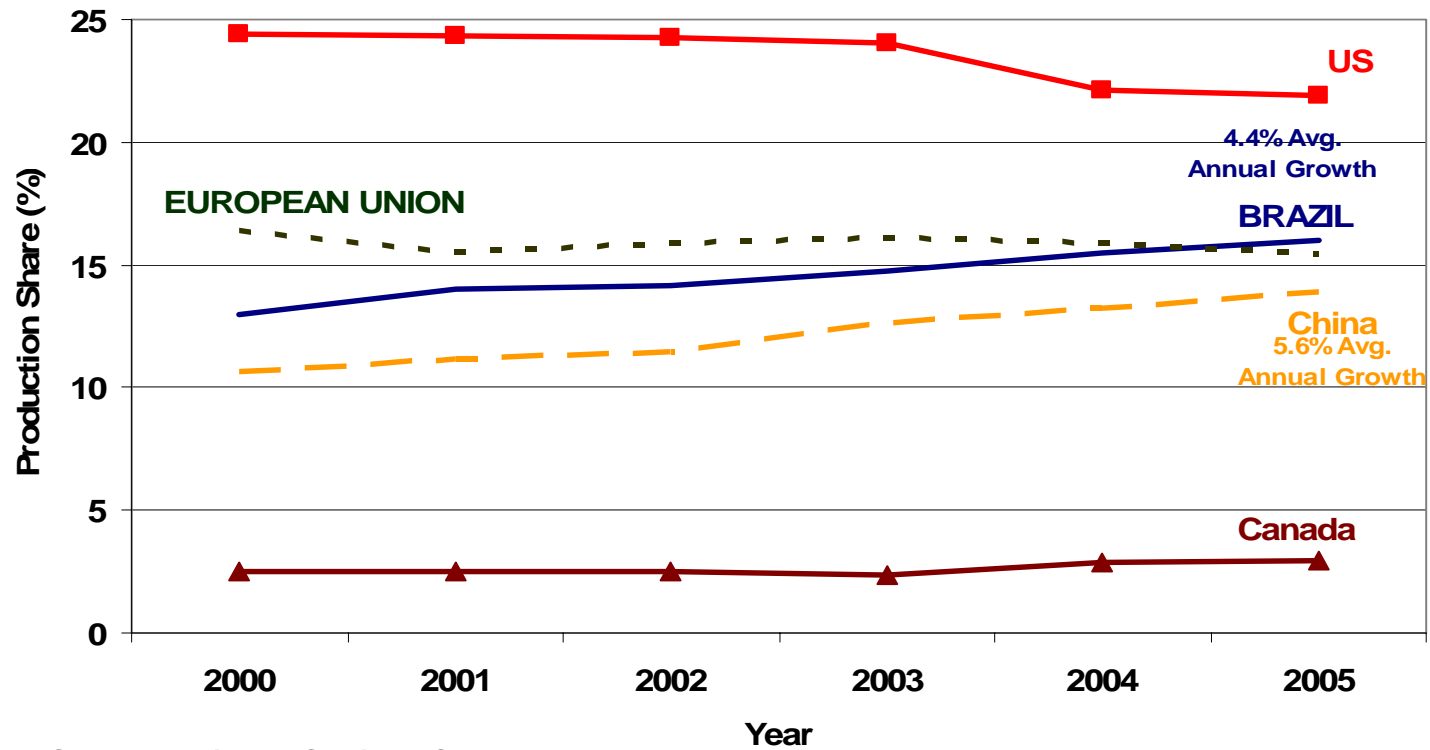
March 7: border scheduled to open to live cattle <30 months of age

March 2: Montana judge issues injunction on behalf of R-CALF

USDA, AMI, NAMP, NCBA, NPPC, AFBF, Tyson
file Amicus Briefs to US 9th Circuit Court of Appeal

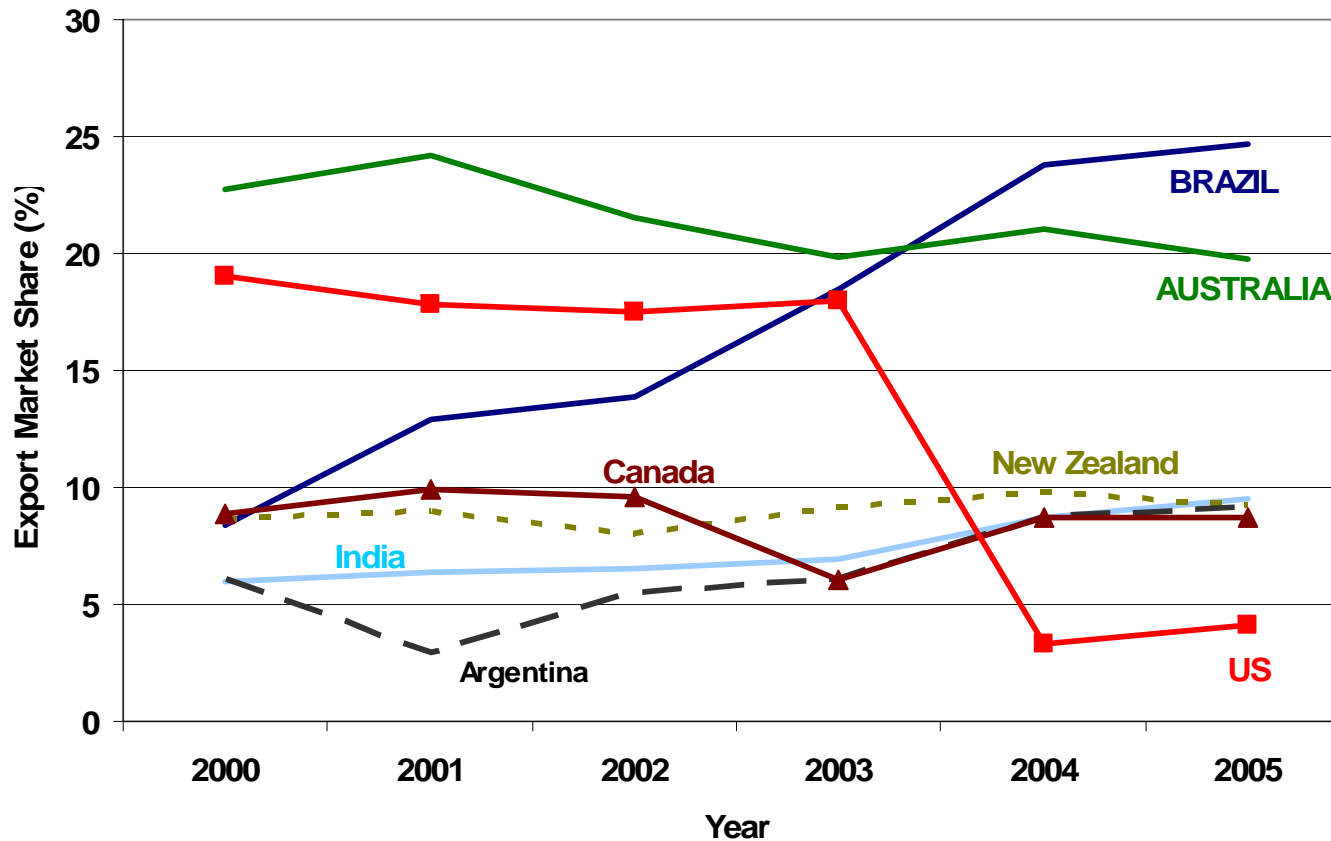
Appears this will persist at least until late May.....

Market Shares of World Beef Production, Four Largest Producers and Canada, 2000-2005 ('05 forecasted)



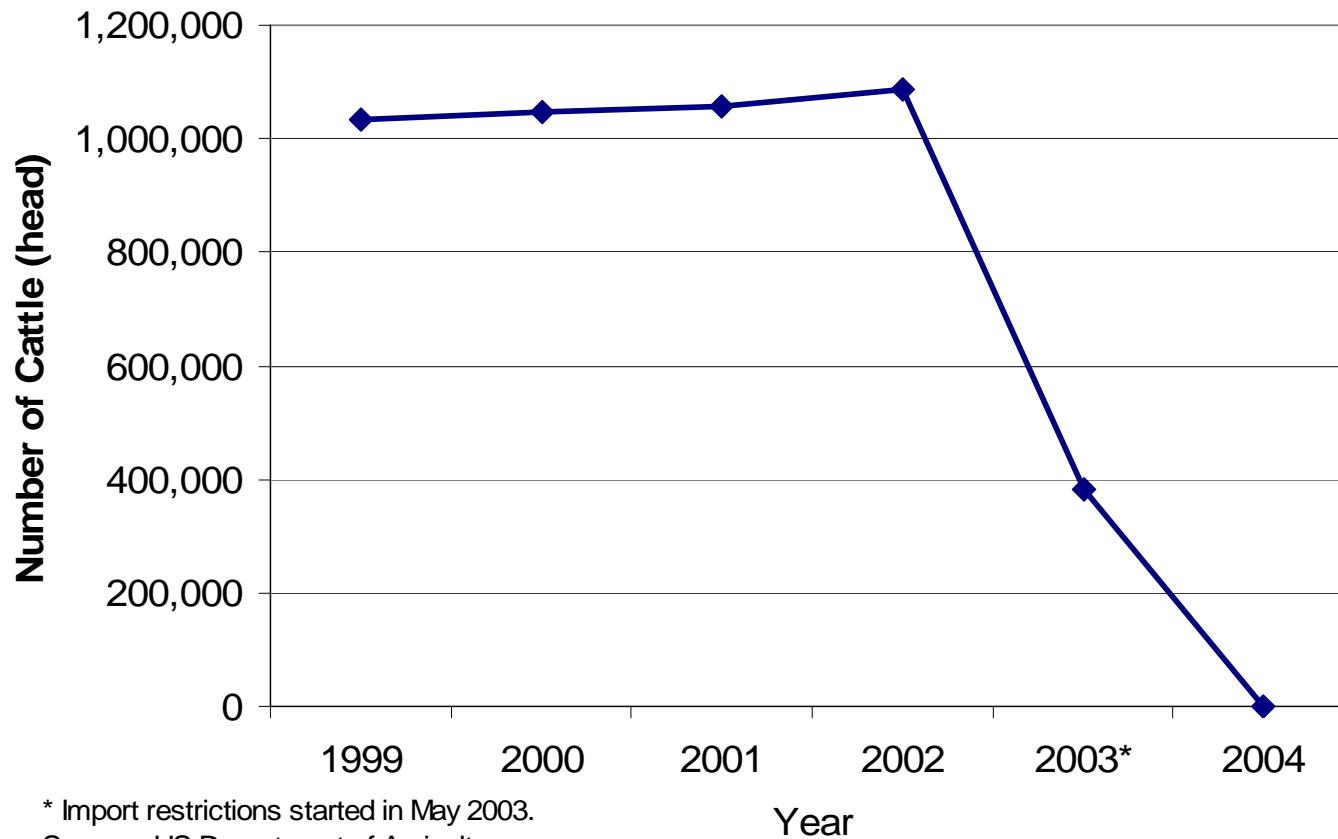
Source: Foreign Ag Service, USDA

Market Shares of Seven Largest World Beef Exporters by Country, 2000-2005 ('05 forecasted)



Source: Foreign Ag Service, USDA

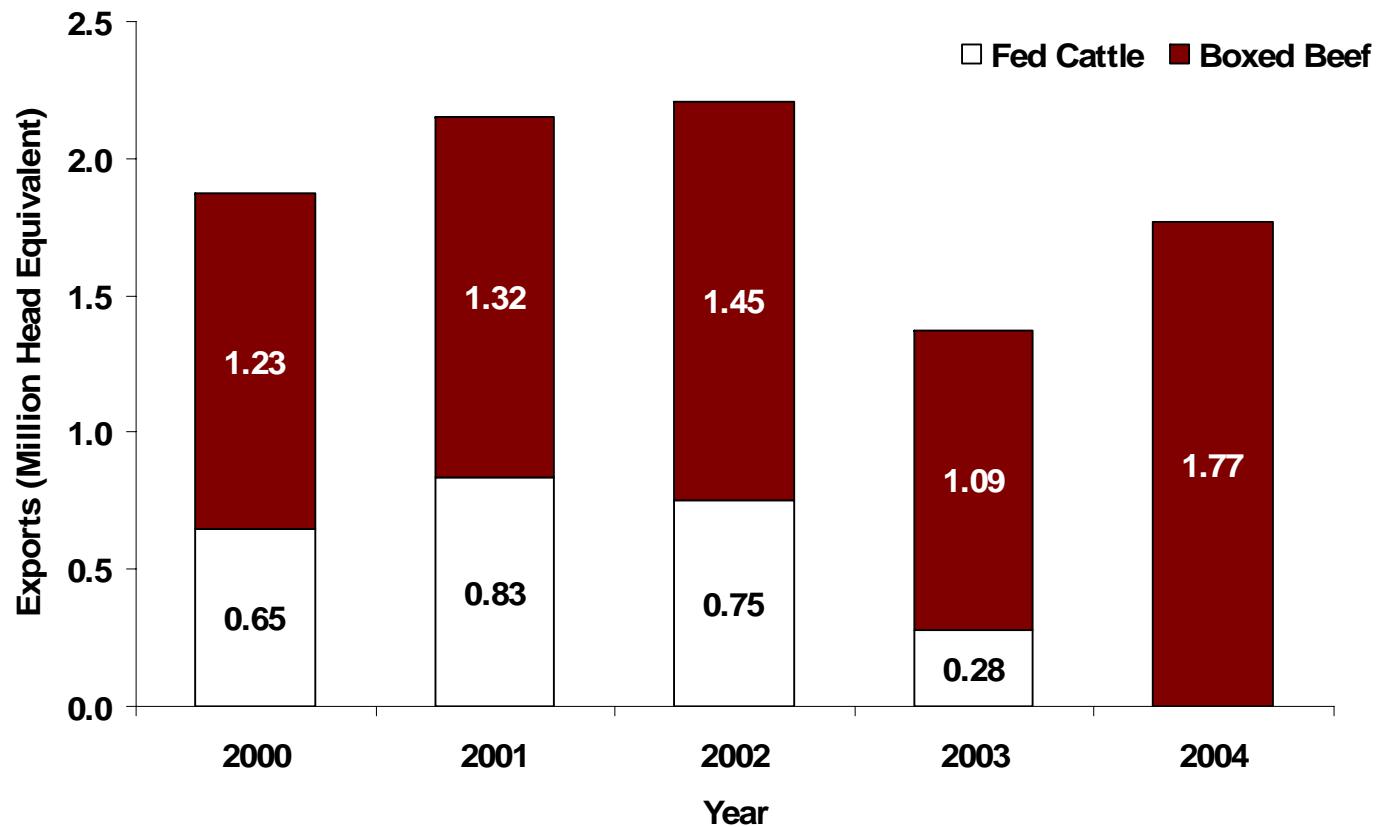
Annual US Imports of Canadian Slaughter Cattle, 1999- 2004



* Import restrictions started in May 2003.

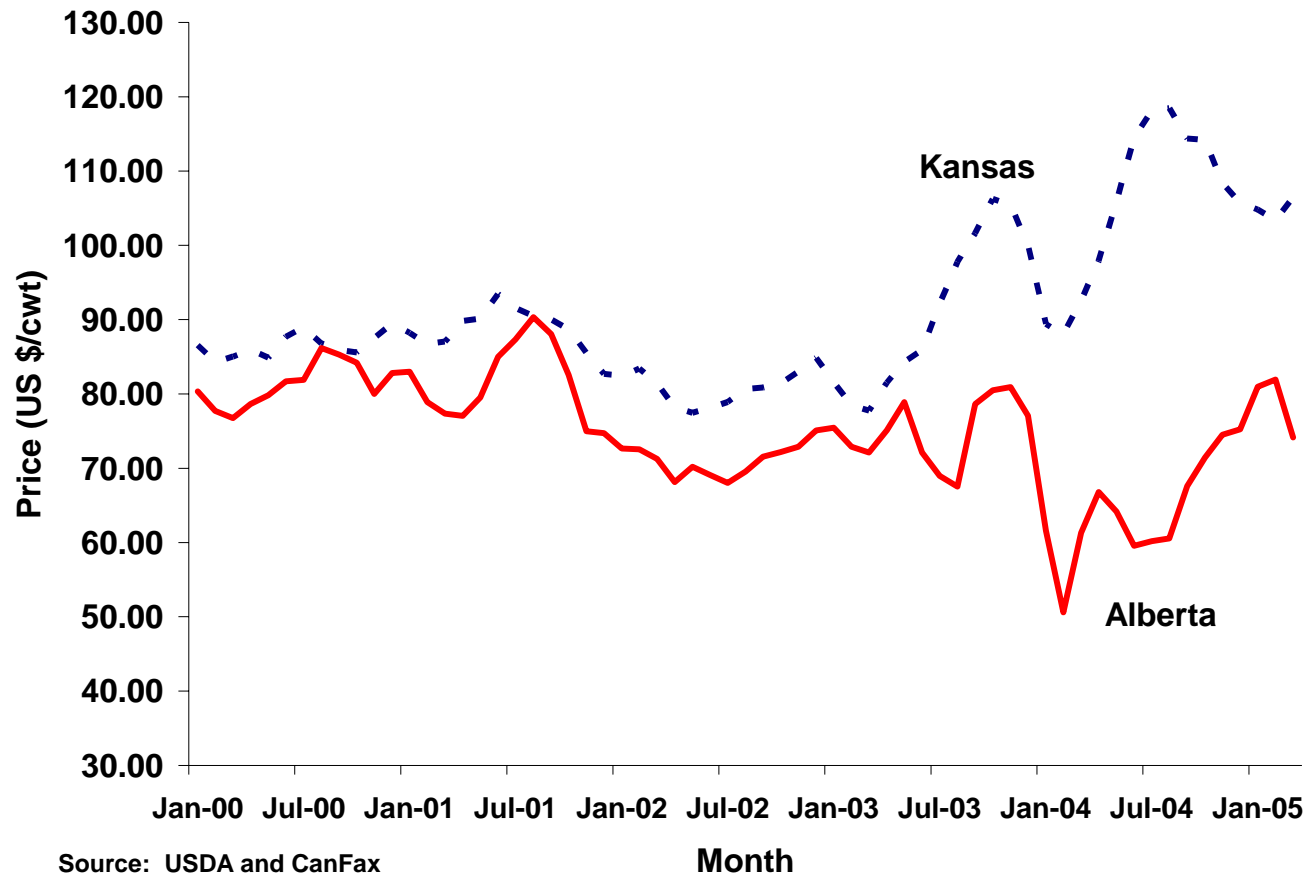
Source: US Department of Agriculture

Annual Canadian Boxed Beef (Converted to Head) and Fed Slaughter Cattle Exported to the US, 2000-2004



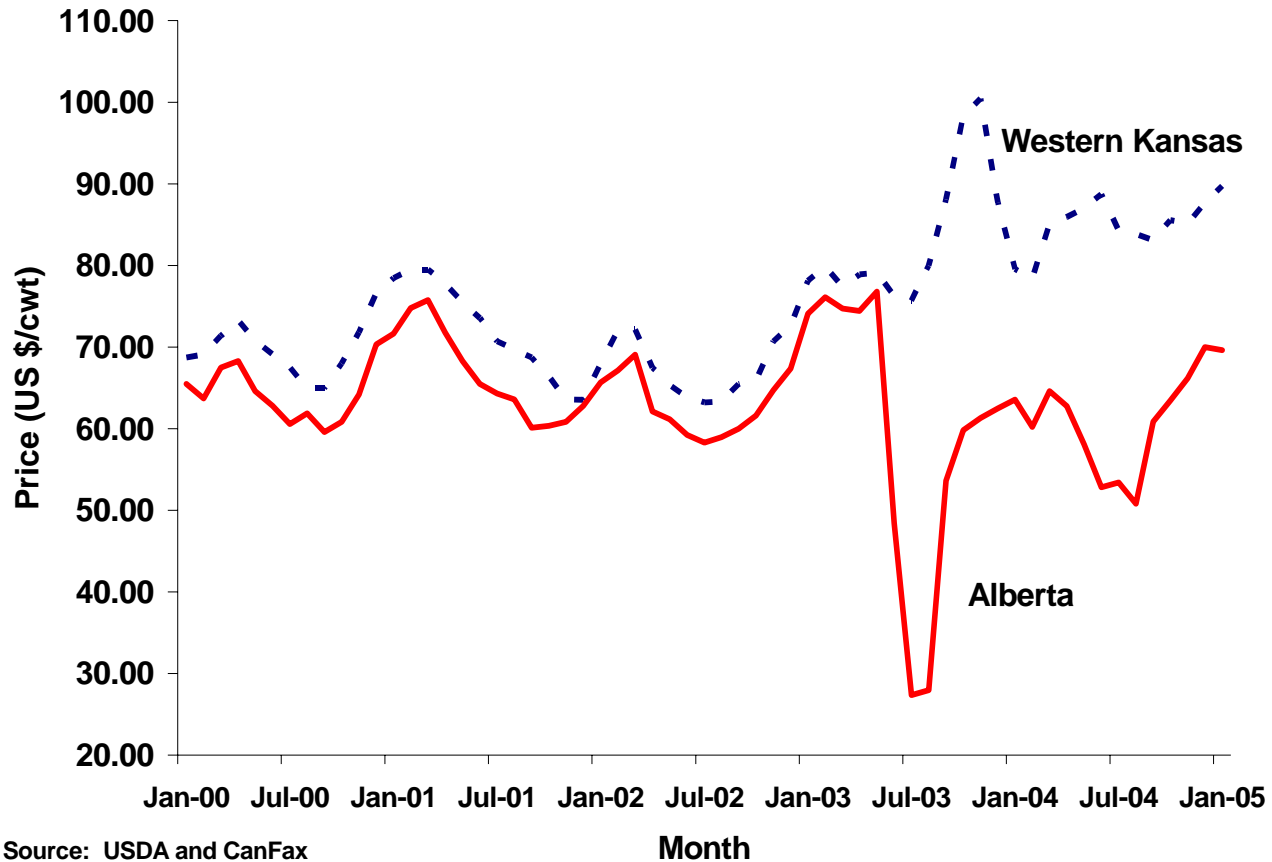
Source: Data from Livestock Marketing Information Center,
boxed beef converted to number of head by authors

Monthly Average Prices for 700-800 Pound Steers in Kansas and Alberta, January 2000 - March 2005



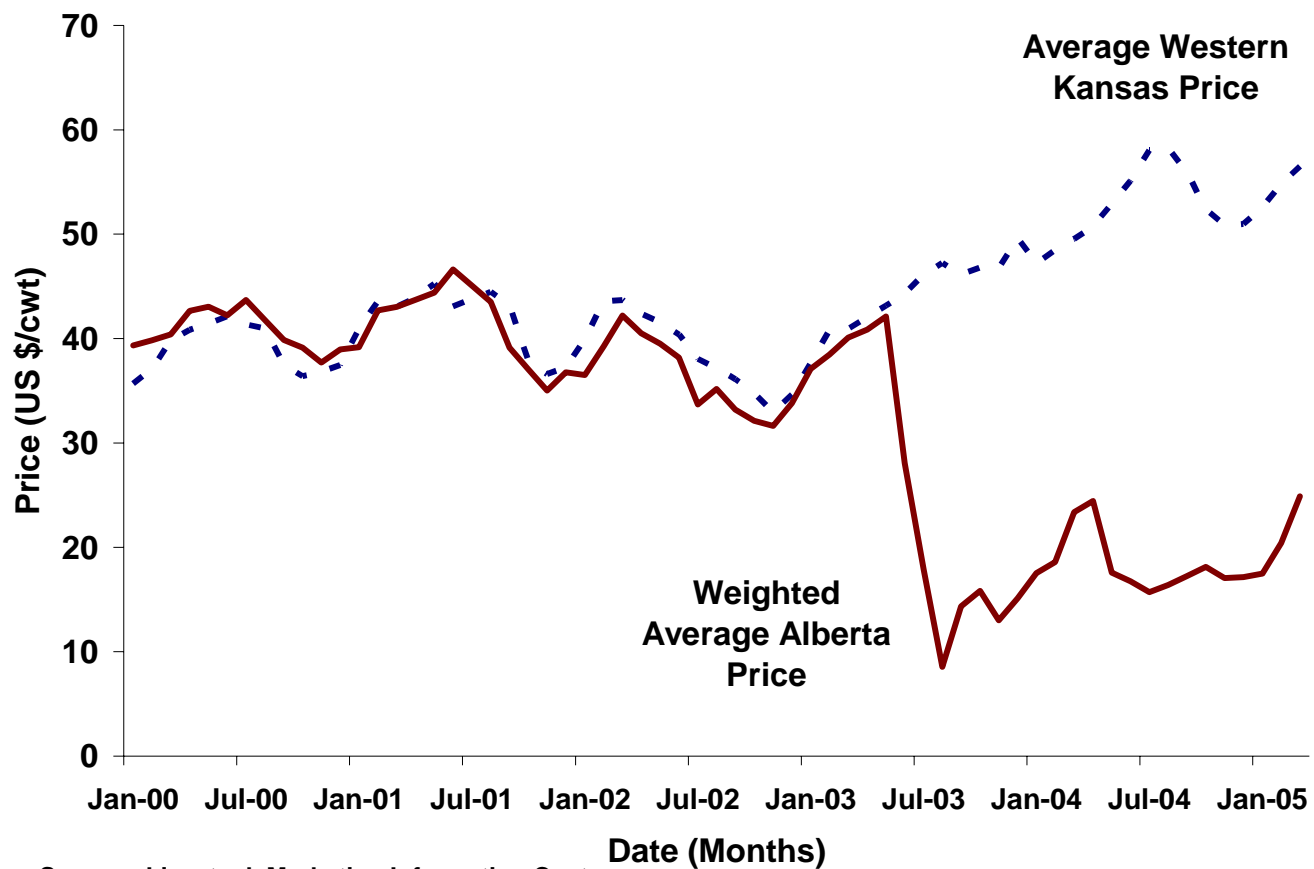
Source: USDA and CanFax

Monthly Average Prices for Fed Steers in Kansas and Alberta, January 2000 - March 2005



Source: USDA and CanFax

Monthly Average Prices for Slaughter Cows in Kansas and Alberta, January 2000 - March 2005



Source: Livestock Marketing Information Center

U.S. Imports of Canadian Slaughter Cattle and Imports as a Percentage of Slaughter, 8 Leading Import States, 2002

State of Slaughter	U.S. Imports^a (head)	Total Slaughter^b (head)	Import Share (% of Total)
Utah	205,931	680,800	30.2
Washington	180,242	970,040	18.6
Minnesota	145,684	1,252,600	11.6
Nebraska	125,703	8,621,400	1.5
Pennsylvania	101,941	1,471,800	6.9
Wisconsin	95,551	1,766,340	5.4
Idaho	52,868	1,051,000	5.0
Michigan	52,028	519,600	10.0
Total from USDA Data^b	1,087,430	35,122,000	3.1

^aSource: Agriculture and Agri-Food Canada

^bSource: US Department of Agriculture

Estimated Value of U.S. Imports of Canadian Slaughter Cattle and Boxed Beef and Byproduct Sales Value by U.S. Slaughter Firms, 8 Leading Import States, 2002

State	Live Value of Imports ^a (U.S. \$)	Estimated Beef & Byproduct Sales Value of Imports ^b (U.S \$)	Estimated Beef & Byproduct Value Less Live Cost ^c (U.S.\$)
Utah	174,081,618	203,384,176	29,302,558
Washington	135,176,001	160,823,192	25,647,191
Minnesota	82,120,068	102,849,894	20,729,826
Nebraska	98,565,909	116,452,577	17,886,668
Pennsylvania	71,597,141	86,102,641	14,505,500
Wisconsin	66,995,411	80,591,658	13,596,247
Idaho	34,532,851	42,055,602	7,522,751
Michigan	39,761,838	47,165,063	7,403,225
Estimated Total (USDA Data)	801,296,047	956,029,819	154,733,772

^aSource: Agriculture and Agri-Food Canada

^bSource: US Department of Agriculture

Total Annual Employment Impact of Reduced Meat Processing Activity to the U.S. by Economic Sector, 2003 U.S. Dollars

Impacted Sector	Total Income (millions \$)	Employment (count)
Agriculture	-1.07	-39
Mining	-2.82	-14
Construction	-3.97	-79
Manufacturing	-100.90	-2,163
Transportation, utilities, etc.	-24.65	-266
Trade	-41.34	-753
Finance, Ins., Real Estate	-48.79	-317
Services	-56.34	-1,291
Government	-2.33	-38
Total	-282.21	-4,960

Source: Schroeder and Leatherman (2004)

Common US Beef Industry News

January 10, 2005

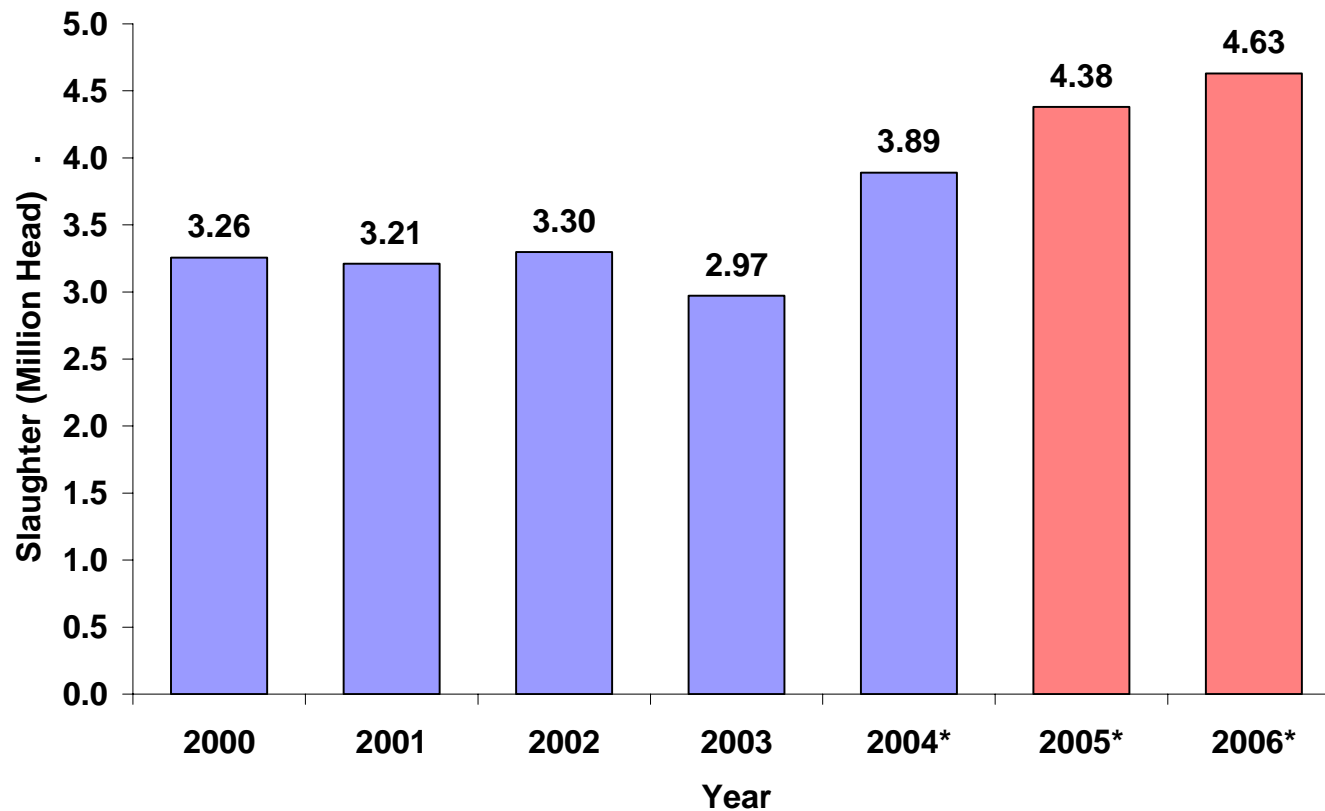
National Beef joins Tyson, Swift in cutting beef production

Meatingplace.com In what is now an industry trend, National Beef Packing Co. has joined Tyson Foods and Swift & Co. in reducing beef production.

March 4, 2005

KANSAS CITY (Dow Jones)--Cargill Meat Solutions announced Friday that it is making additional cuts in production at seven of its U.S. beef plants, citing poor market conditions.

Annual F.I. Canadian Cattle Slaughter 2000-2004 and Projections through 2006 Assuming 90% Utilization



Source: CanFax, * As projected by CanFax

Beef industry adjustments

- Canada is investing heavily in beef slaughtering
- US has closed some packing plants and reduced slaughter at most plants
- If border re-opens, what are costs and who will survive?
- We will have over-invested in beef slaughtering and processing in North America

Beef industry adjustments

- Policy response in Eastern Canada has been to facilitate (\$) ownership transfer of packing plants to producers (dairy and beef).
- A floor price was established for dairy cows.
- Increase in milk prices (part of it to cover BSE costs).
- Is there an economic rationale for intervention (in other words, what is the market failure? Monopsony position?).

Issues in the hog/pork industry

- Two different policies with similar effects:
 1. Countervailing duties (CVD) / Anti-dumping (AD) duties
 2. Country of Origin Labeling (COOL)
- One objective is to understand location decisions resulting from the two policies in terms of regional and commodity implications.
- Price signals (provided they are not too distorted by subsidies) will ultimately influence location issues.



Overview of the pork industry structure

- Snapshot of the Canadian / U.S. / Mexican hog/pork industries
- Breakdown of the Canadian industry on regional and commodity basis

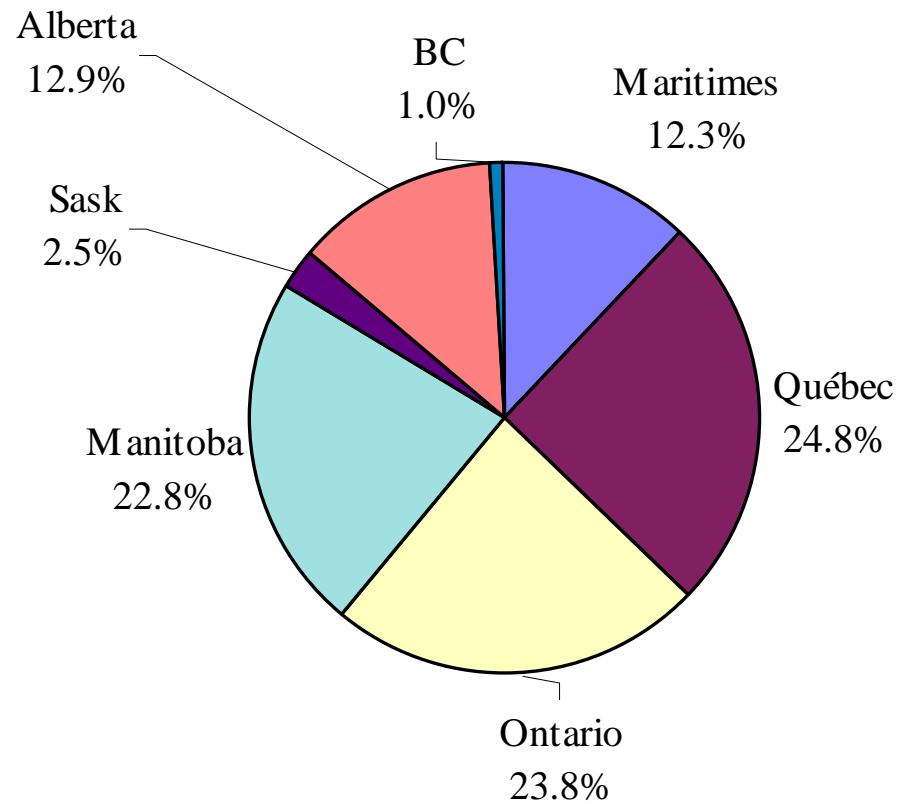
Snapshot of the Canadian / U.S. / Mexican hog/pork industries

- 2004 hog inventories in the U.S., Canada and Mexico were 60,444; 14,623 and 10,668 (000 head) respectively.
- Canada, U.S. and Mexico were the 2nd, 3rd and 7th world largest pork exporters in 2004 respectively. Despite being large exporters, Canada and Mexico only produce 2.1% and 1.3% of world pork production respectively.
- U.S. is also the 3rd largest pork importer

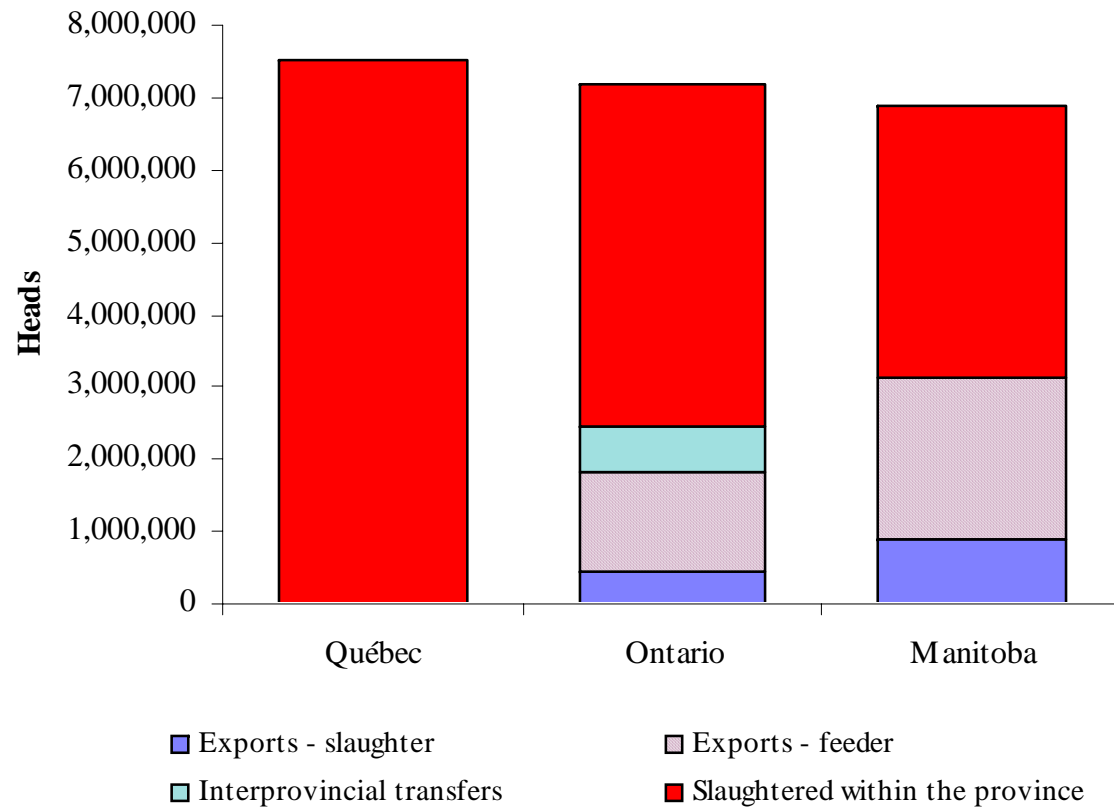
The U.S. / Canadian relative growth of the pork industry (Canadian industry as % of the U.S.)

Year	Hog slaughter (head)	Pork imports (000 MT)	Pork exports (000 MT)
1994	95,905 (15.9)	338,077 (8.3)	284,114 (98.1)
1995	96,517 (16.1)	301,801 (8.9)	365,259 (98.5)
1996	92,394 (16.2)	281,311 (12.5)	413,166 (93.2)
1997	91,966 (16.5)	287,316 (18.0)	458,311 (91.8)
1998	101,028 (16.5)	320,302 (19.4)	528,939 (89.5)
1999	101,694 (18.6)	375,961 (15.4)	580,501 (89.5)
2000	97,977 (20.1)	439,359 (13.5)	584,846 (108.9)
2001	97,962 (21.0)	432,157 (15.8)	708,845 (101.4)
2002	100,263 (21.9)	486,694 (15.9)	732,831 (122.9)
2003	100,777 (22.1)	538,724 (20.2)	780,387(118.4)

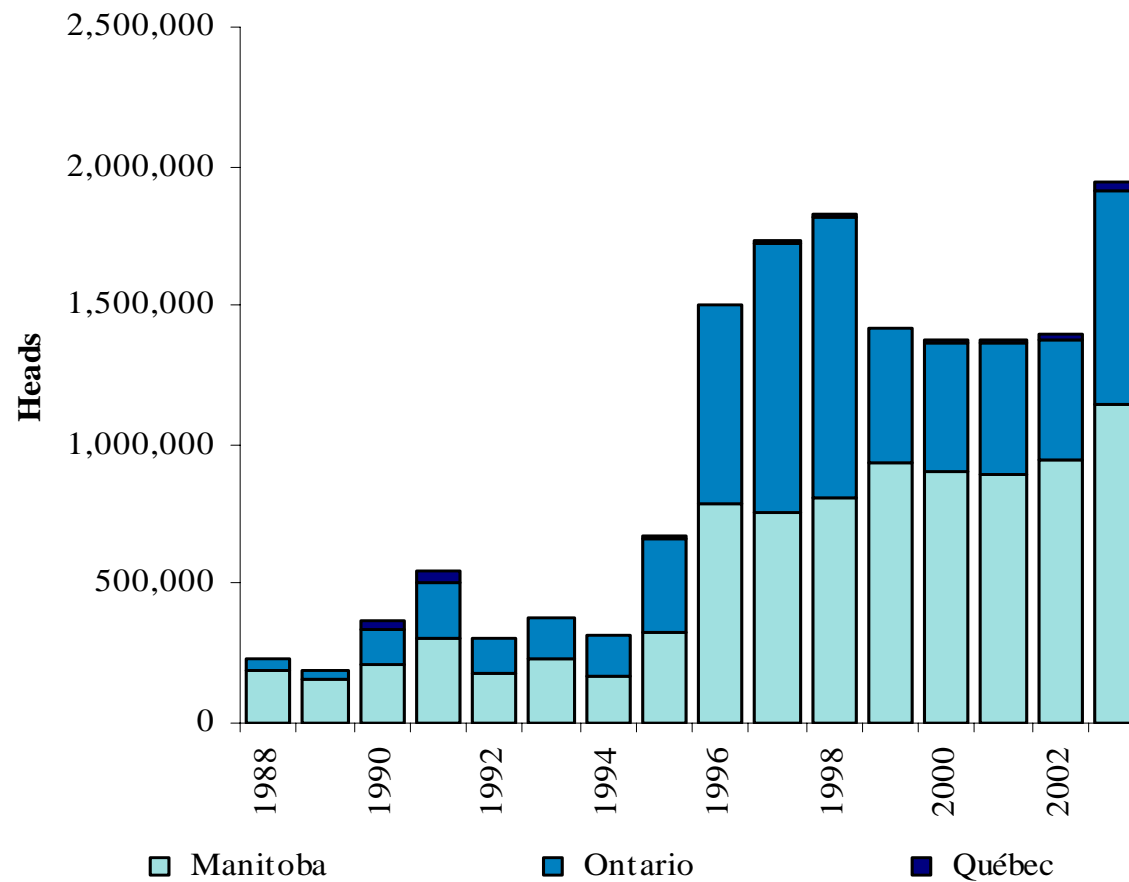
Provincial share of total Canadian hog marketings (as percentage of total number of head) in 2003.



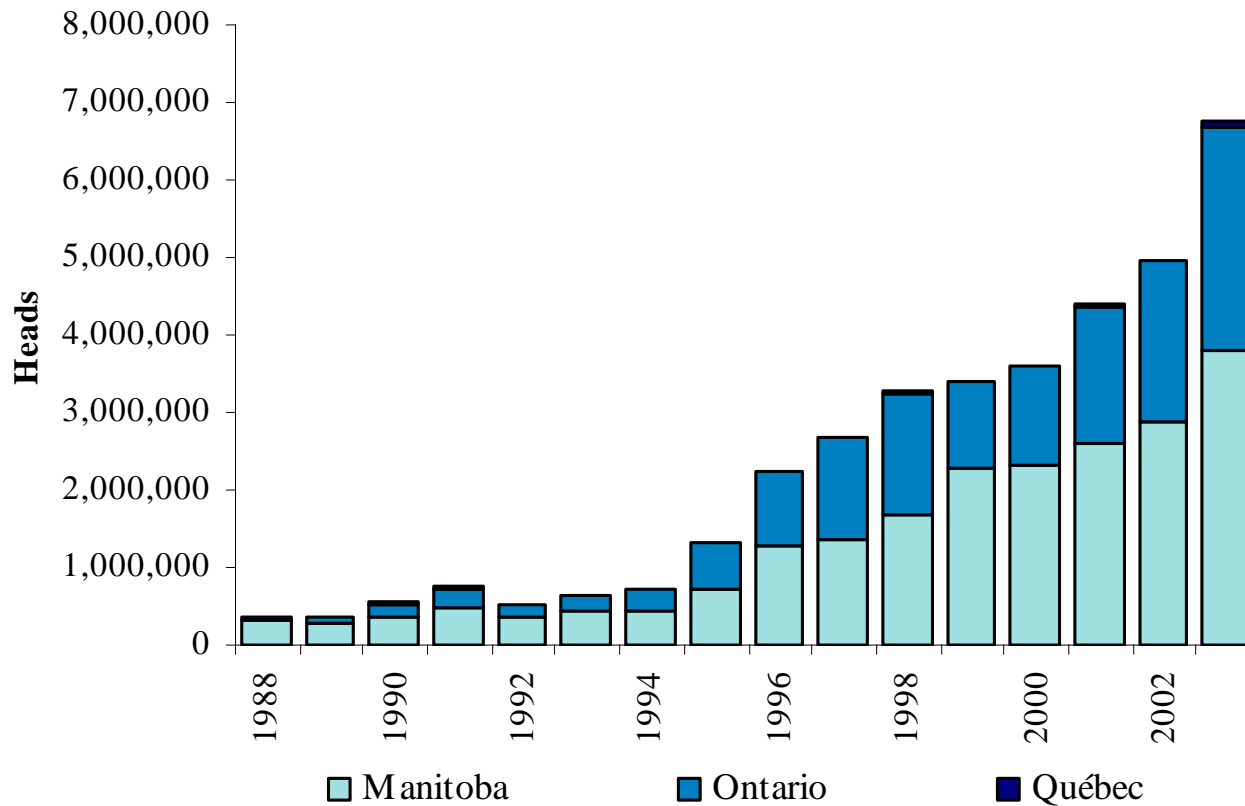
Market destination of all hogs marketed in Québec, Ontario and Manitoba in 2003



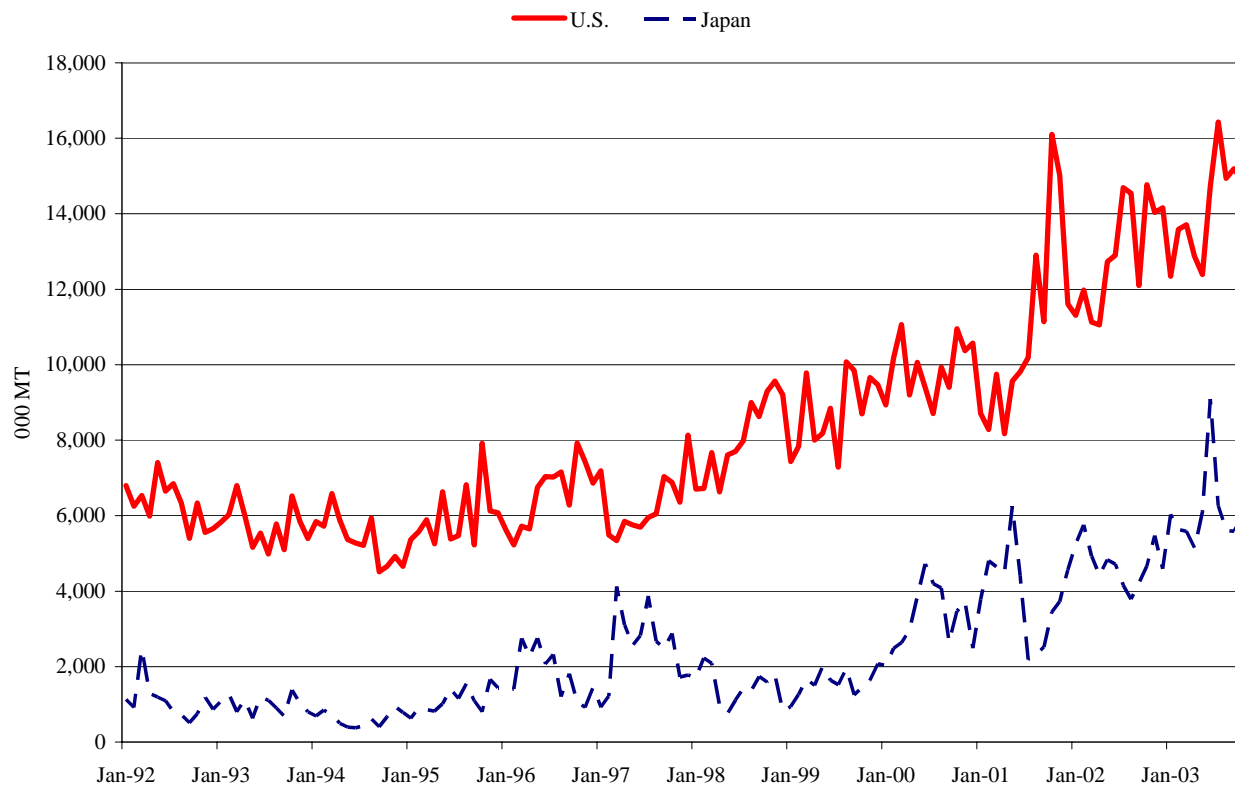
Exports of slaughter hogs from Quebec, Ontario and Manitoba to the U.S in 2003



Exports of feeder pigs from Quebec, Ontario and Manitoba to the U.S in 2003



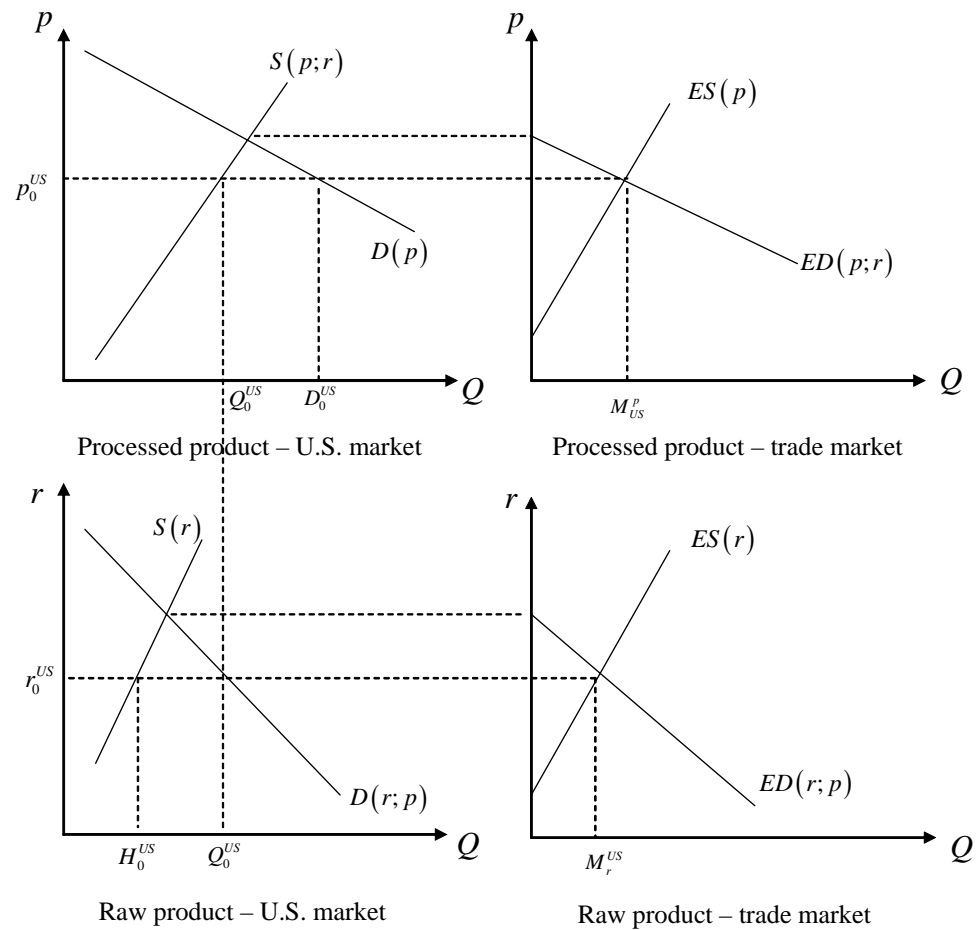
Pork meat exports from Quebec to the U.S. and Japan from January 1992 to December 2003



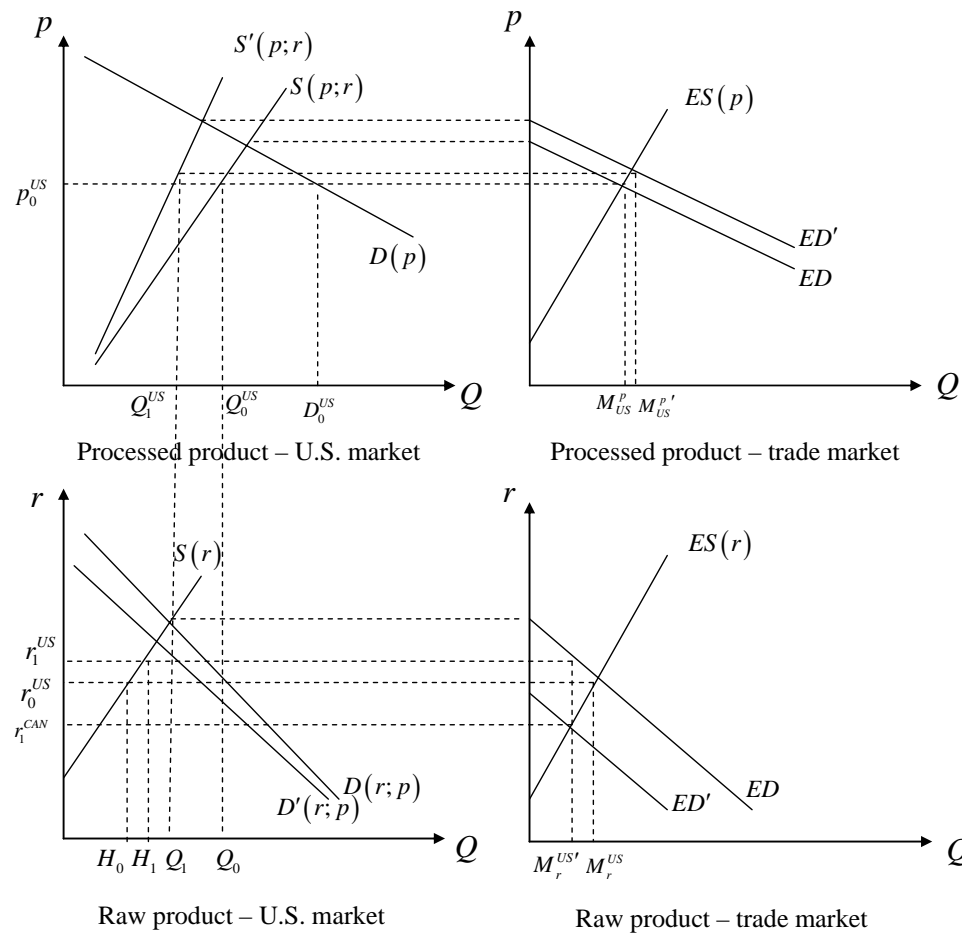
Policy Analysis

- Countervailing duties (CVD) / Anti-dumping (AD) duties are import tariffs imposed either because of unfair subsidies or unfair commercial practices.
- Import tariffs can always be decomposed into a consumption tax and production subsidy.
- Terms of trade impacts can be understood through simple partial equilibrium model.

Market equilibrium



Terms of trade impacts



Impacts of CVD / AD duties

- CVD / AD duties are likely to raise hog and pork prices in the U.S. and decrease hog prices in Canada. Canadian pork prices are likely to increase as well.
- In case of COOL, all of the above arguments hold at expense of additional transaction costs for the U.S. industry.

COOL results

- Preliminary research report (Abdesselem, Bonroy, and Gervais, 2005) suggests pork prices in the U.S. could go up by as much as 6% while Canadian pork prices could fall by as much as 2%. Impact on hog prices are minimal.
- Results are based on rather optimistic assumptions with regard to U.S. consumers' behavior (premium of 0.25Can\$ per Kg paid by 90% of consumers). Also includes a transaction cost of 0.10Can\$ per Kg).

Pork industry adjustments and policy responses

- Policy implications from the Canadian perspective? First-best solution is *laissez-faire*. This policy prescription holds in the case of no-uncertainty, perfect competition, etc.
- If lump-sum redistribution is impossible, what is the optimal policy?

Options

- Potential policy / adjustment:
 1. Promotion of Canadian products (COOL)
 2. Increase packing capacity
 3. More subsidies (!)

Promotion of Canadian products

- Canadian pork exporting firms are not pure price takers in the U.S. market.
- For example, Gervais and Larue (2005) find that the export price elasticity with respect to the exchange rate is about 0.2 for Quebec exports. They obtain larger elasticities for exports originating from Ontario and Manitoba.
- Role for generic promotion? Incentives to change usual supply chains to target U.S. distributors that cannot profit from the label system?

Increase capacity?

- Packing capacity in Canada does not seem to be a problem. No plant is operating double shifts on a constant basis. The issue is not more plants but bigger plants because of potential (unexploited) economies of scale (MacDonald and Ollinger, 2000). There are still large differences in plant size between the U.S. and Canada.
- Is policy conducive to investments in capacity? Real option theory would suggest no!

Increase capacity?

- Real issue is where all these pigs will be fed to ready-to-market weight assuming that some of them do not cross the border.
- Hog finishing capacity is intrinsically linked to environmental issues and constraints.
- Two-year moratorium on production in Quebec has just been lifted. Stricter environmental standards have been issued. Casual evidence suggests that producers converted their maternity permit to finishing operations during moratorium. There have been some feeder pig imports from Ontario. Income stabilization program (ASRA) creates strong incentives to finish hogs in Quebec.

Increase capacity? (cont'd)

- Hog marketing institutions in Quebec are however less flexible than elsewhere. These factors are not favorable to new investment in packing plants.
- Hornung and Ward (2005) argue that the opening of the Brandon plant had a negligible effect on hog prices in Manitoba. Their result is consistent with a well integrated and open North American market. That's unlikely to hold in case of important bottlenecks at the border.

Is location of production demand or supply driven?

- Hog finishing operations would locate where there is a comparative cost advantage in feeds.
- The Prairie region is an obvious candidate; but Manitoba is a net importer of corn and should import feed wheat from other provinces (Kraft and Rude, 2002). This is conducive of an increase in feed prices.
- Need more subsidies for hog finishing operations to grow (but highly undesirable option).

Conclusions

- Global beef competition is intensifying
- BSE discoveries created lost market access especially to Japan and South Korea
- Border closure forces Canada to expand beef slaughter while US plants are under-utilized
- North America has added substantial costs to beef industry through border restrictions.

Conclusions (cont'd)

- After the final hog/pork CVD and AD rulings, the attention is shifting to COOL.
- Despite positive rulings from the Canadian perspective, efforts will likely intensify to expand hog finishing capacities. Likely to see further consolidation in the packing industry.
- Future growth in Canadian production is likely to be impeded by pressures to reduce domestic support and the value of the U.S. dollar.