

The Potential Effects of WTO on Structural Change in Dairy Policy and Industry Structure

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Issue

- Issue: Recent changes in trade patterns
 - Engineered dairy products
 - WTO modalities
- Who Will Gain, Who Will Lose?

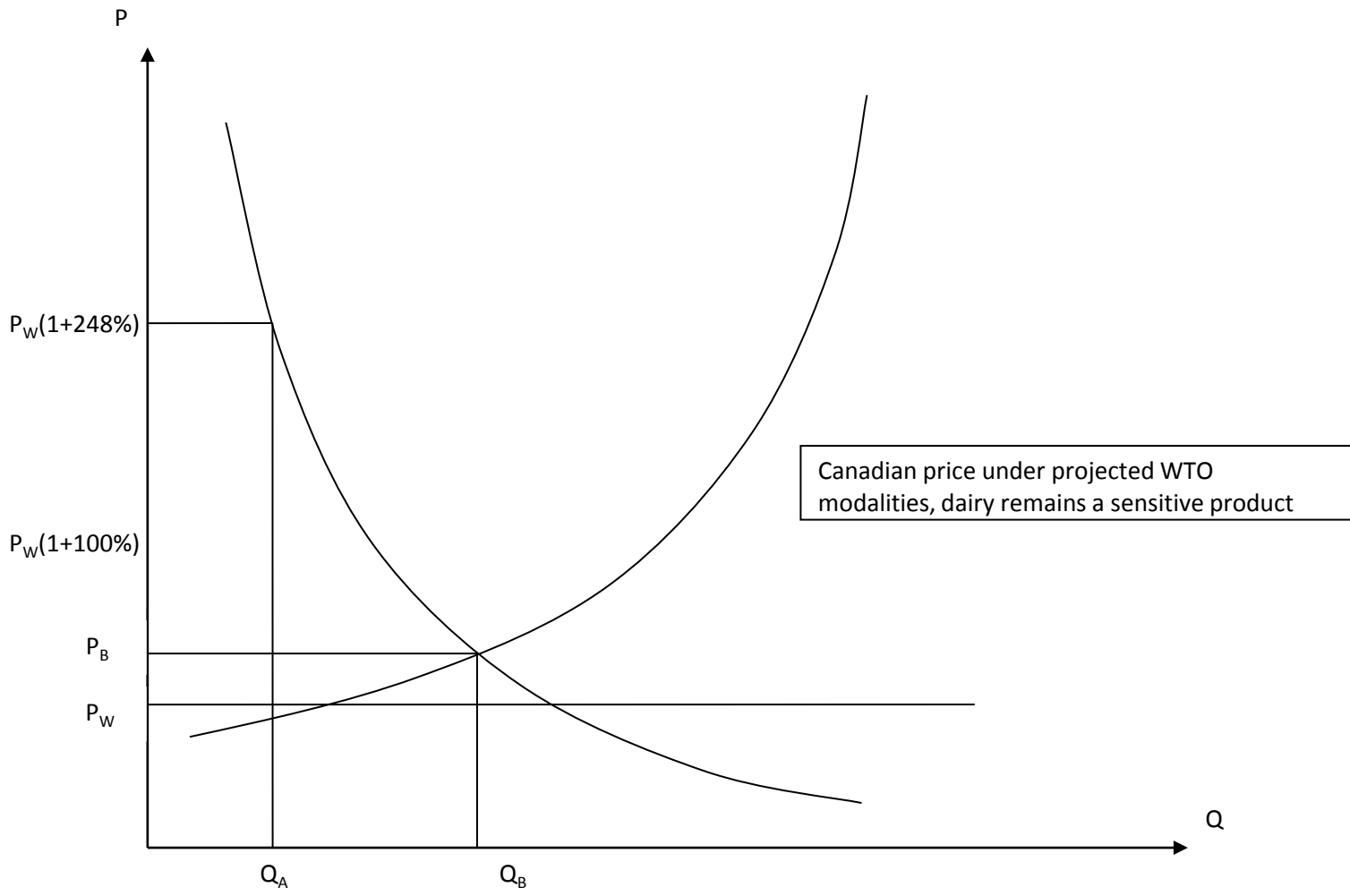
Canadian Dairy Policy

- Domestic Quotas (Cannot export to US per 2003 agreement, but some dairies still operate outside the domestic system, NY seeks enforcement 11/13/2007)
- Tariff Barriers to Trade
- Price Determination
- Additional Support to Farmers

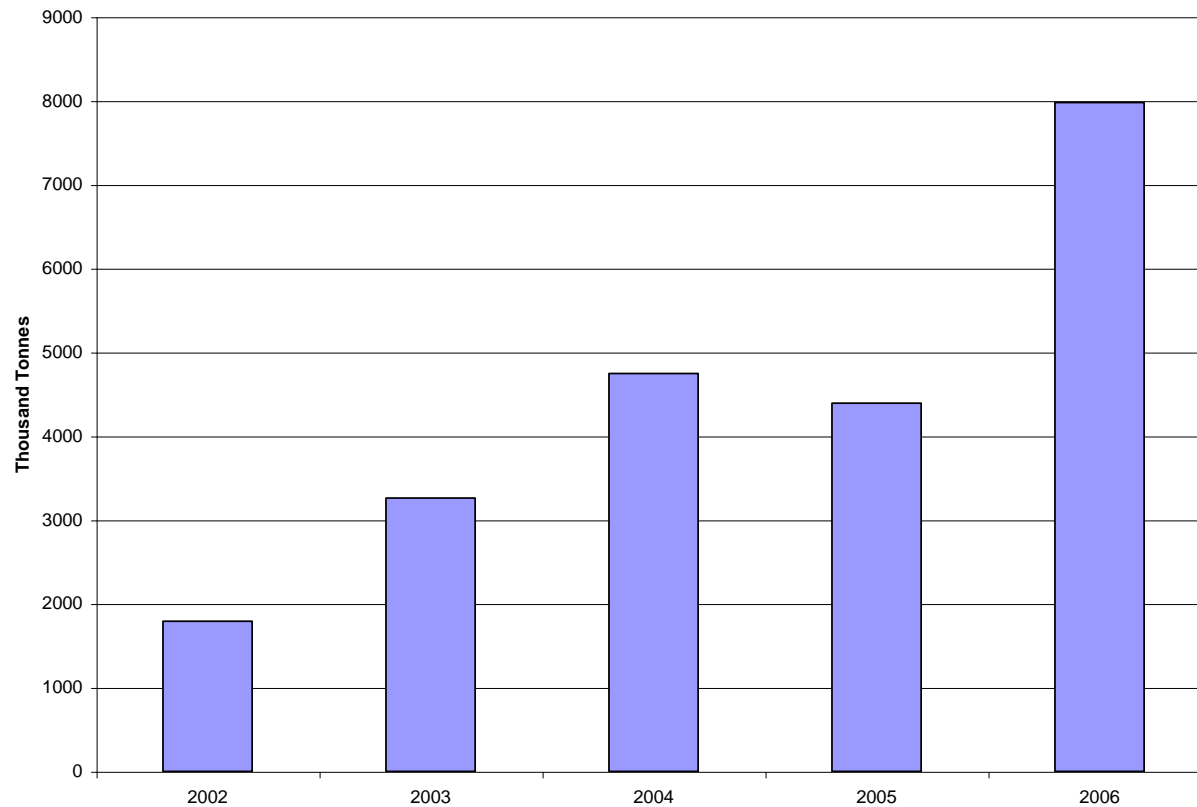
	Final bound duties			MFN applied duties			Imports		
Product groups	AVG	Duty-free	Max	Binding	AVG	Duty-free	Max	Share	Duty-free
		in %		in %		in %		in %	in %
Animal products	33.2	42.0	680	100	29.6	64.1	681	0.4	62.6
Dairy products	220.4	0	349	100	248.6	0	349	0.0	0
Fruit, vegetables, plants	3.3	60.5	19	100	3.3	60.8	19	1.7	83.5
Coffee, tea	7.5	55.0	265	100	10.4	76.4	265	0.5	70.6
Cereals & preparations	20.3	15.9	277	100	20.1	32.2	277	1.0	20.8
Oilseeds, fats & oils	5.2	53.1	218	100	4.9	56.4	218	0.4	66.9
Sugars and confectionery	7.5	7.8	31	100	5.7	28.1	28	0.2	7.0
Beverages & tobacco	7.8	23.8	256	100	7.2	34.4	256	0.8	27.0
Cotton	0.8	90.0	8	100	0.5	90.0	5	0.0	95.3
Other agricultural products	7.1	73.1	600	100	6.9	79.4	600	0.4	50.7
EUROPEAN (25) Dairy products	56.9	0	264	100	53.8	0	229	0.1	0
UNITED STATES Dairy products	25.0	0.3	126	100	25.0	0.3	126	0.1	12.8

Table 2. Canadian Dairy Bound MFN Tariffs by 5-digit HS Code.

TARRIFF RATE	PRODUCT
208.00%	WHEY
245.50%	CHEESE EXCEPT FRESH
201.50%	MILK POWDER <1.5% FA
245.50%	CHEESE PROCESSED
270.00%	NATURAL MILK PRODUCT
245.50%	CHEESE, GRATED
292.50%	MILK >6% FAT
241.00%	MILK 1-6% FAT
245.50%	FRESH CHEESE
237.50%	YOGURT
208.00%	BUTTERMILK
298.50%	BUTTER
313.50%	FATS, OILS, MILK
255.00%	MILK AND CREAM NES
243.00%	MILK POWDER UNSWEET
259.00%	MILK UNSWEET CONCENT
245.50%	CHEESE, BLUE-VEINED
241.00%	MILK <1% FAT



Increasing Canadian Imports of Milk Protein Isolates



Changing Composition of US Dairy Imports

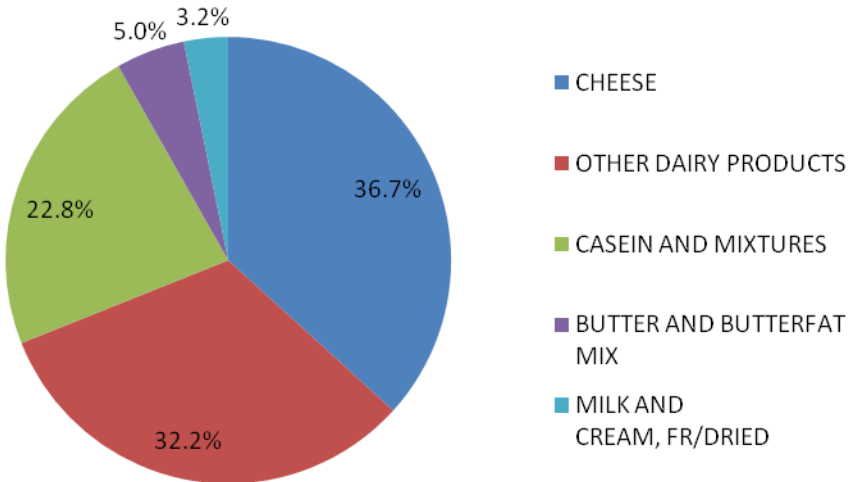
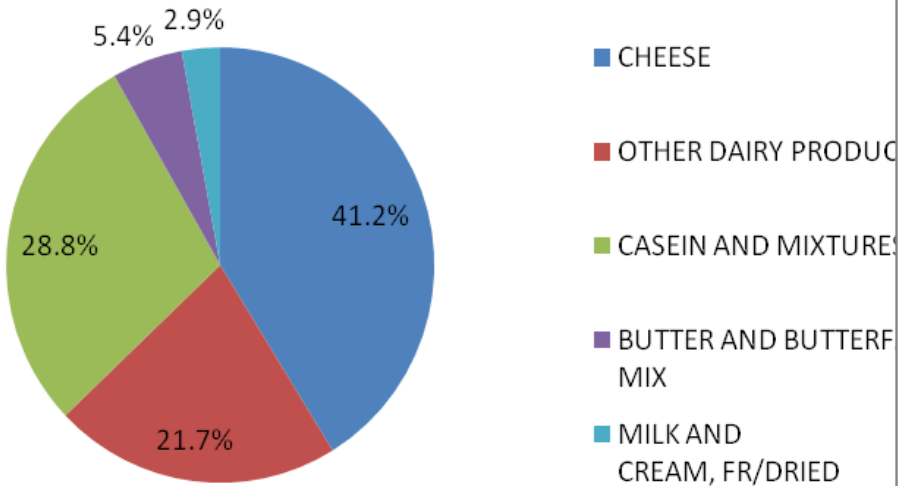
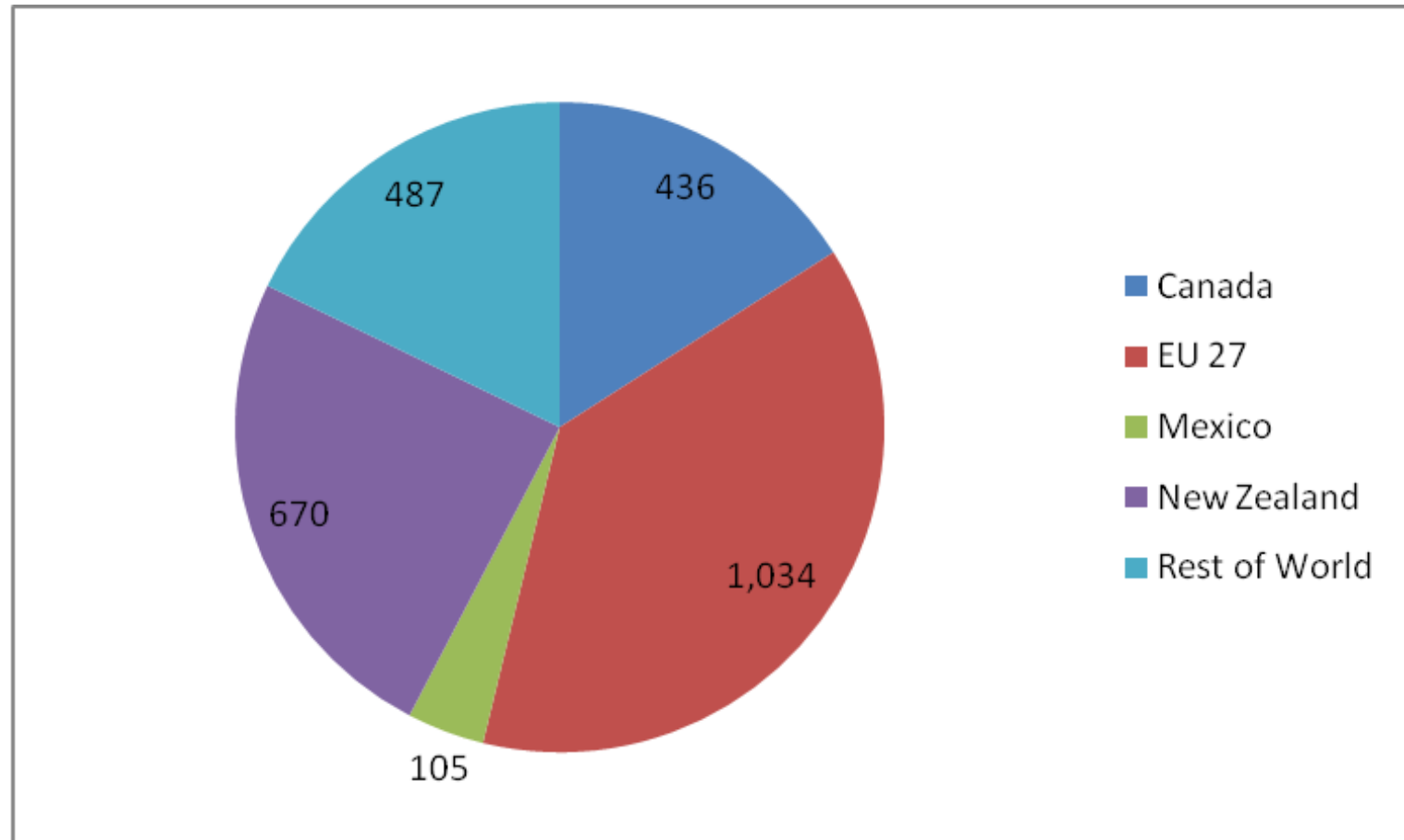
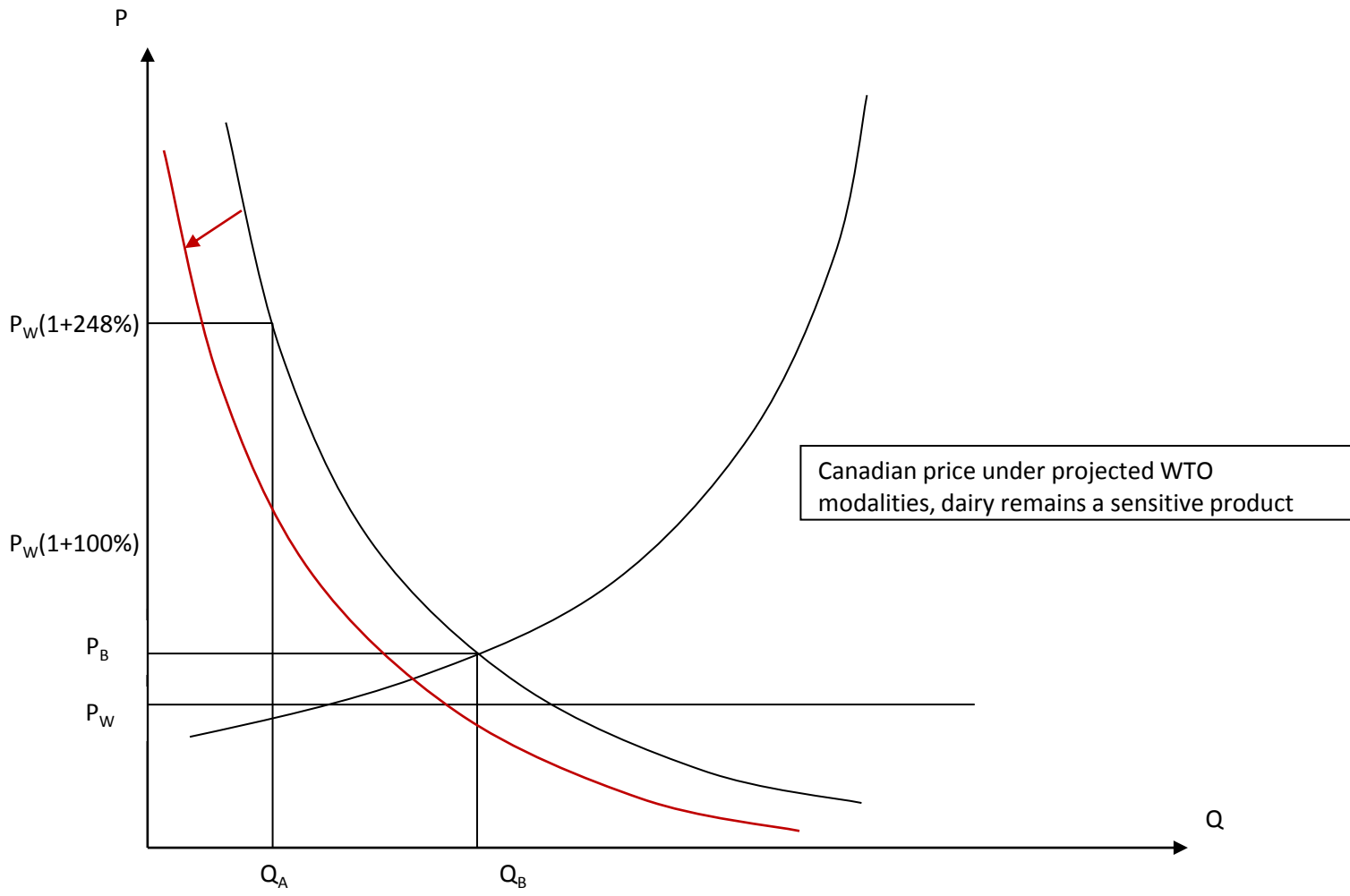


Figure 2a, composition of US dairy imports, 2001. Source: USDA/FATUS

Figure 2b, composition of US dairy imports, 2006. Source: USDA/FATUS

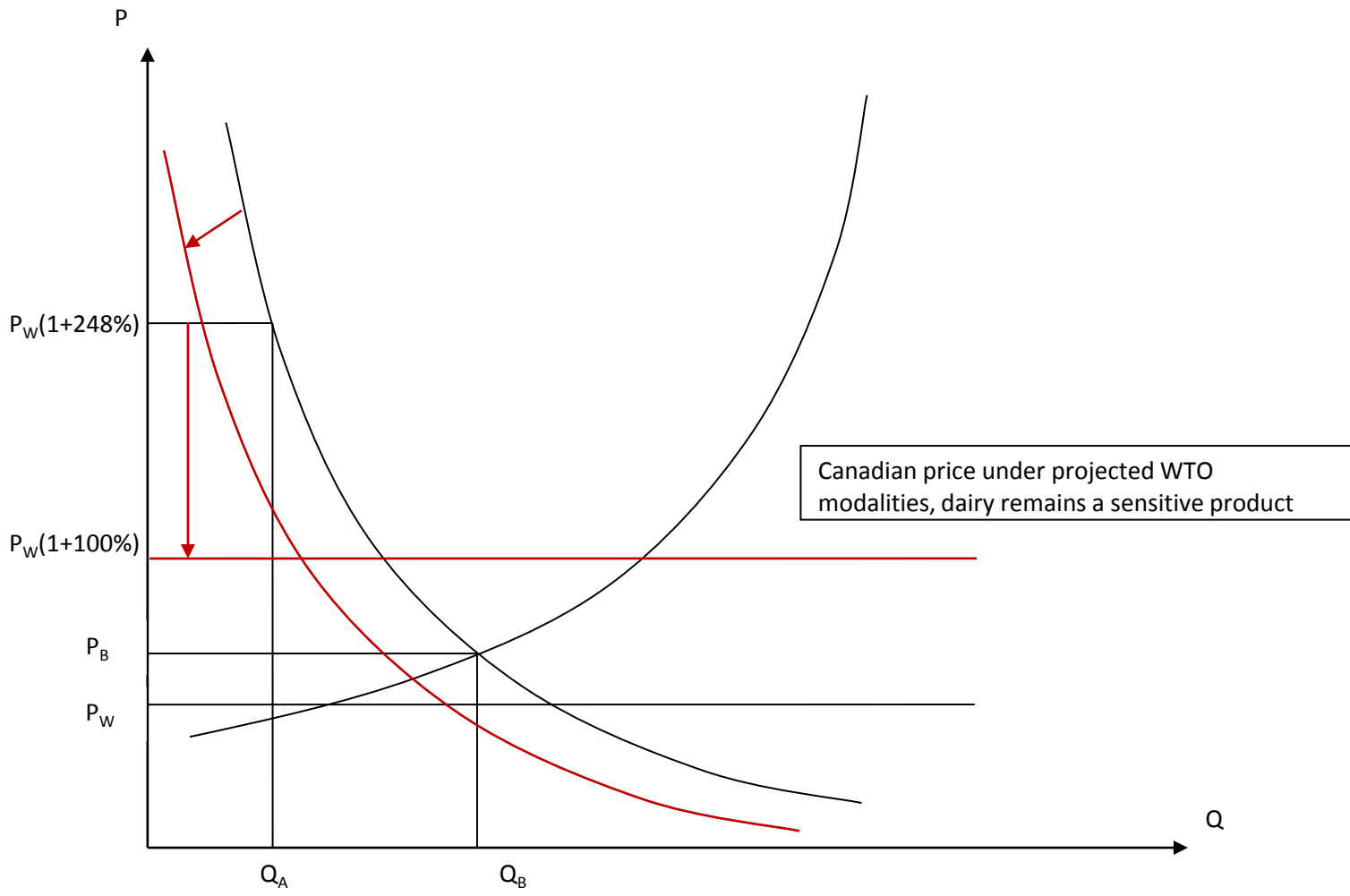
Value of US dairy imports by origin, 2006 (\$1,000).





WTO Modalities

- Reduction in Tariffs of $\sim 2/3$
- Sensitive Products: 4-6% or existing tariff lines
 - Can avoid $1/3$ of reduction by increasing TRQ 3 % points
 - Can avoid $2/3$ of reduction by increasing TRQ 6 %
 - May still face cap of 75-100%
- Subsidy reductions



Questions:

- How will Canada respond to increasing international competition?
- What will be the effects on the Canadian dairy industry?
- Are there opportunities for US exports to Canada?
- [We ignore New Zealand]
- [We focus on WTO modalities]
- [Canadian dairy farmers claim higher supply curve]

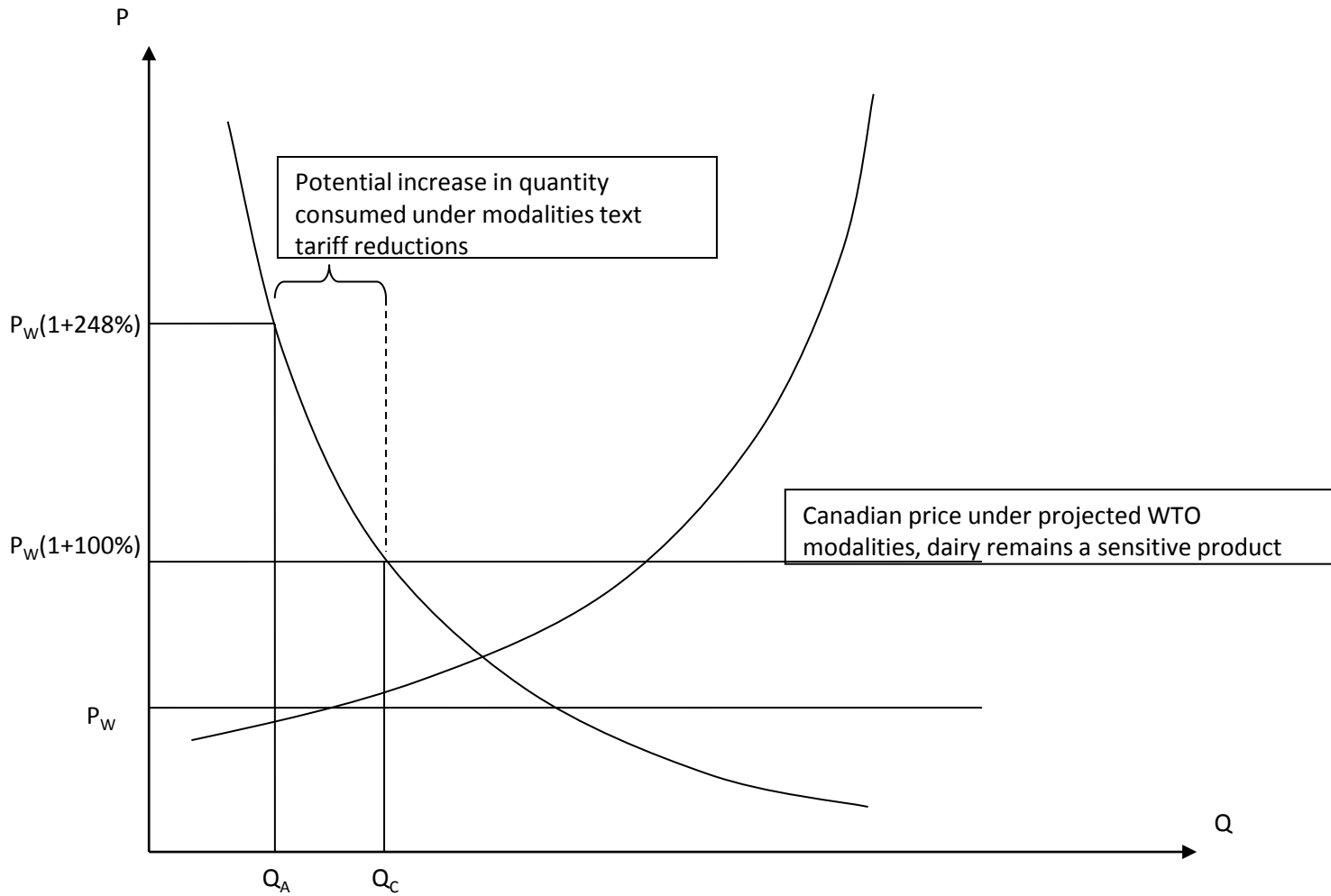


Table . Projected milk demand by class under a selected WTO modality.

Milk Class	Tariff	Modality tariff sensitive, disallow 1/3 of the 2/3 price reduction	Increase in Qd	Total Qd	TRQ @ 3%
1A	241.00%	133.89%	1,853,432	26,439,287	793,179
1B	241.00%	133.89%	151,561	2,162,024	64,861
1C	241.00%	133.89%	65,700	937,212	28,116
1D	241.00%	133.89%	4,211	60,075	1,802
2	237.50%	131.94%	242,983	3,480,093	104,403
3A	245.50%	136.39%	1,032,137	14,649,877	439,496
3B	245.50%	136.39%	772,157	10,959,792	328,794
4A	298.50%	165.83%	209,346	2,829,463	84,884
4B	259.00%	143.89%	31,969	447,393	13,422
4C	270.00%	150.00%	225	3,117	94
4D	270.00%	150.00%	63,971	885,814	26,574
4M	270.00%	150.00%	<u>236,575</u>	<u>3,275,911</u>	<u>98,277</u>
TOTALS			4,664,267	66,130,060	1,983,902

Projected Changes in Quantities of Canadian Milk Demand, Class 1-4, Current and Various WTO Modalities

	Tariff	TRQ	Qd (class 1-4) (hl)	Increase in Qd (hl)
Current	237-270%	0	61,465,793	-
Modality 1	185-232%	6%	63,797,926	2,332,134
Modality 2	132-150%	3%	66,130,060	4,664,267
Modality 3	75%	3%	68,767,502	7,301,710

Canadian Responses

- Try to preserve current quota system (official stance of Ministry of Agriculture)
- Become more competitive by growing size of dairies (modifying quota system required)
- Become more competitive by becoming more efficient (modifying quota system helps)

Preserving Quota at Current Amounts

- Allows global competitors to grab any increase in quantity demanded.
- Under WTO modalities could be as much as 7.1 million hl of increased in Qd, + TRQ
- Increased Ontario production + TRQ ~ 10% of Michigan production.
- Increased Quebec production + TRQ ~6% of NY production. Most processing in Quebec
- NY and Michigan would likely see large benefits from preserving the existing quota system.

Canadian Dairy: Becoming Competitive by Growing Herd Size

Farm type	Number of farms	Less than \$25,000	\$25,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$999,999	\$1 million and over
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Dairy	14,651	3.4%	6.7%	32.6%	52.8%	4.5%
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Canadian Dairy: Becoming Competitive by Growing Herd Size

- Increase in milk demand is small—on the order of 10% or less
- Data and most econometric estimates support IRS, but cost savings proportionately less than herd size increase (Elasticity < 1).
- By itself, not a meaningful way to become competitive.

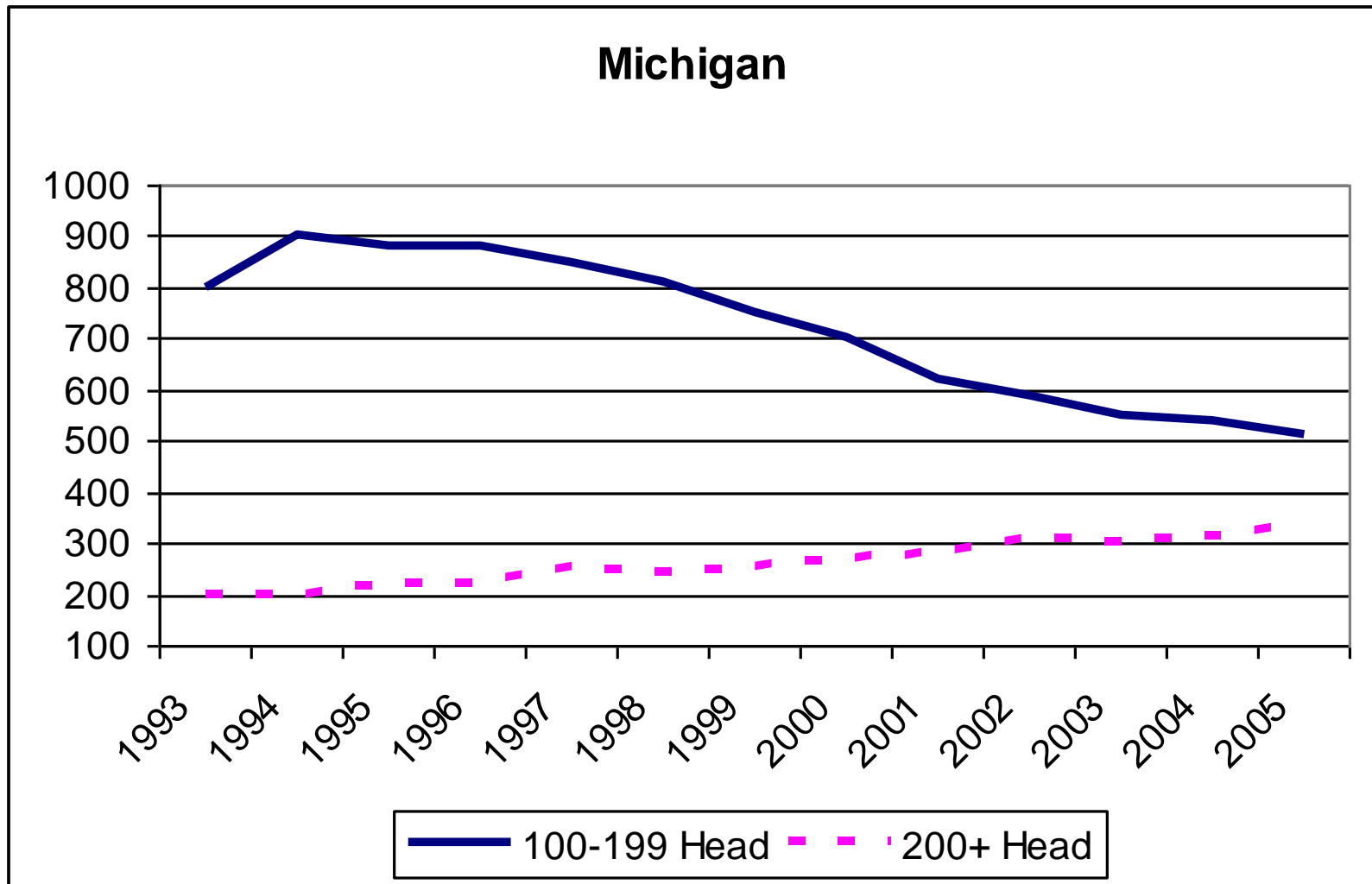
Dairy costs of production, by herd size, 2005

	Enterprise size (number of milk cows)					
	<50	50-99	100-199	200-499	500-999	>999
Mean herd size	35	69	133	295	666	2083
Output per cow (lbs)	15,055	17,149	18,228	19,487	20,719	20,195
	<i>Dollars per hundredweight</i>					
Total operating costs	12.30	12.94	11.51	11.31	11.07	9.74
Purchased feed	3.60	3.75	4.12	5.00	5.64	5.99
Homegrown feed	5.02	5.07	4.06	3.01	2.58	1.47
Grazed feed	0.41	0.15	0.11	0.10	0.02	0.01
Allocated overhead	17.79	12.56	9.31	6.61	5.00	3.85
Hired labor	0.50	0.80	1.34	1.84	1.80	1.61
Unpaid labor	10.60	6.10	3.13	1.34	0.54	0.17
Capital recovery	5.26	4.56	3.89	2.55	2.03	1.66
Total costs	30.09	25.50	20.82	17.92	16.07	13.59
Gross value of prod.	17.87	17.56	17.20	17.25	16.56	16.54
Net returns	-12.22	-7.94	-3.62	-0.67	0.49	2.95

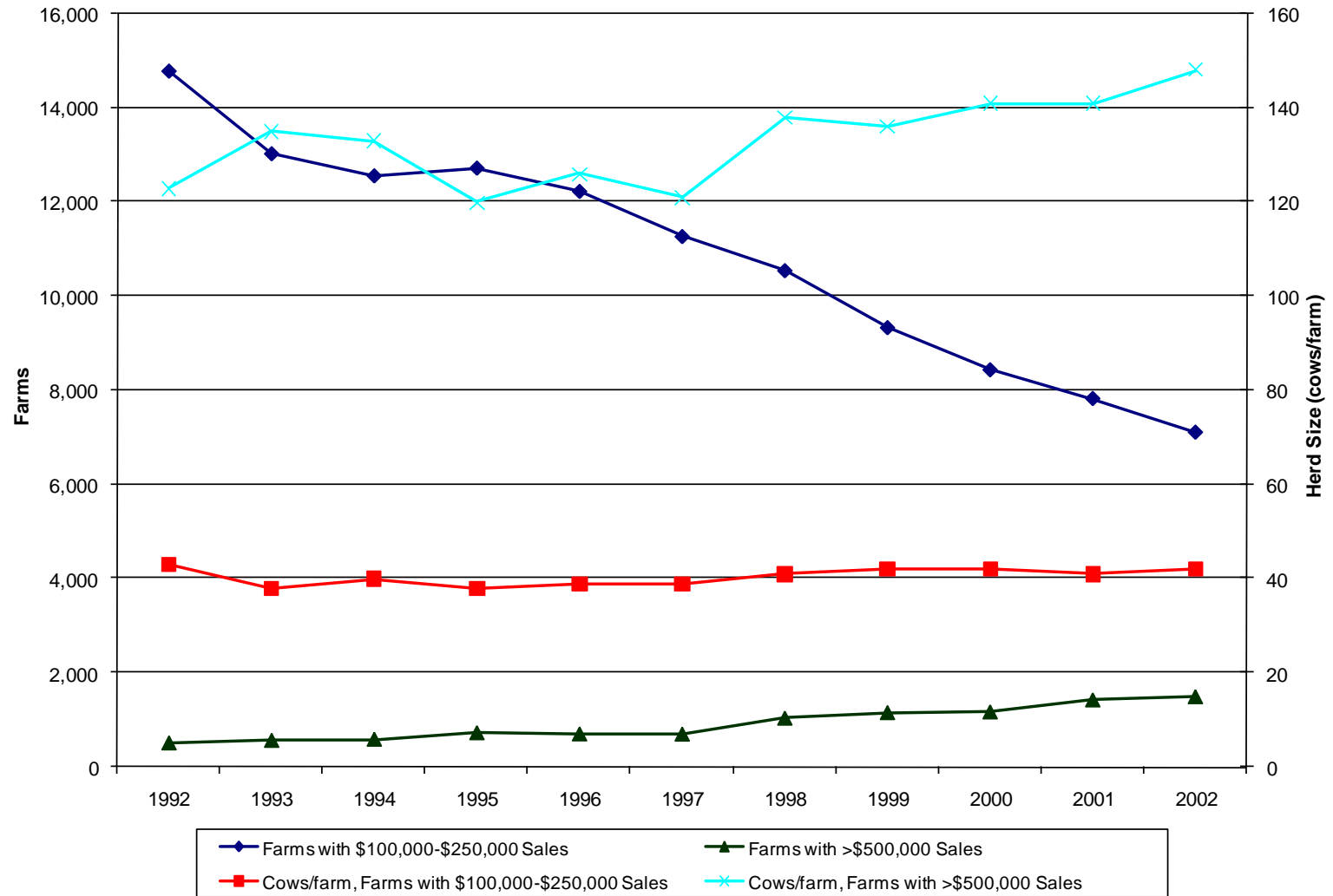
Source: ERS estimates, at www.ers.usda.gov/data/arms/CostOverview.htm

Herd size refers to all dairy cows on an enterprise, including dry cows but excluding calves, heifers, and bulls. Gross value of production for the dairy enterprise includes milk, cull cattle sales, and other revenue generated by the dairy enterprise. Net returns are the difference between gross value of production and total costs. Organic operations are excluded.

Changes in Michigan Dairy Herd Size



Changing Size of Canadian Dairy Farms



Expense-to-receipts ratios by farm type, Canada

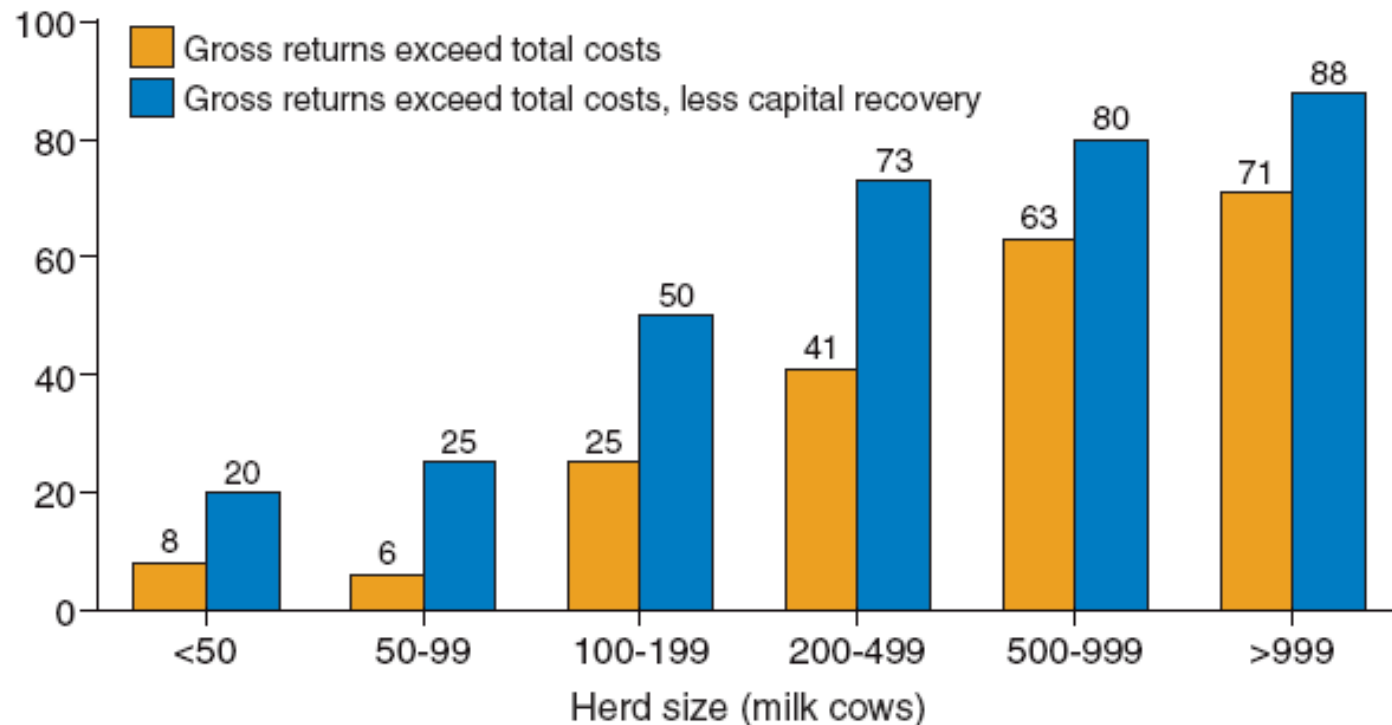
Farm type	Less than \$25,000	\$25,000 to \$99,999	\$100,000 to \$249,999	\$250,000 to \$999,999	\$1 million and over
Dairy	1.89	0.81	0.72	0.72	0.74

Canada: Becoming Competitive by Becoming Efficient

- Ontario data are not available, but anecdotal evidence suggests that a significant proportion have stanchion/tie stall barns
- 100% of Michigan dairy farms 80+ are free stall and 100% of farms 120+ have milking parlors

Profitable dairy enterprises were more common among large farms in 2005

Percent of enterprises that are profitable



Source: ERS estimates, from 2005 ARMS dairy version.

Canada: Becoming Competitive by Becoming Efficient

- Econometric estimates suggest inefficiencies of 60% are more common in Canadian dairy

Conclusions

- Global competition and/or WTO will change effect of Canadian policy and structure of Canadian dairy.
- This restructuring represents a significant market opportunity for border states
- Canadian dairy could maintain profitability amid lower prices and meet increased demand by increasing efficiency through investment in new technology (but not easy to do).