

U.S.-CANADIAN DAIRY TRADE TENSIONS: THE NATURE AND EFFECTS OF CANADIAN DAIRY POLICY

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The task assigned for this paper is to identify the nature of the economic effects that have arisen from Canada's current dairy policy as one of the necessary steps to understand and assess the nature of trade policy tensions between Canada and the United States. As is the case for other farm products, dairy policy in Canada has arisen from and evolved in a complex interplay of political, economic and social pressures that also reflects the joint nature of federal and provincial jurisdictional powers over agriculture and the power that each of these levels of government holds over regulation of markets and trade. Both in Canada and the United States, as in many other countries with a developed dairy industry, the sector is relatively highly protected from the pressures of external markets. The extent of this protection and support is indicated by the high levels of producer subsidy equivalents (PSE) and consumer subsidy equivalents (CSE) or implicit consumer taxes calculated by the OECD for both countries (Table 1). Such measures are necessarily based on comparison with reference prices that are affected by distorted world markets for dairy products; thus their precise levels may be viewed with caution. The measures do, however, provide an indication of the relative levels of protection associated with dairy policy in the two countries. This has been higher for Canada than for the United States, at least since the 1980s.

THE ECONOMICS OF DAIRY SUPPLY MANAGEMENT

A basic component of Canadian supply-management programs can be depicted simply, as for the fluid (beverage) milk sector in Figure 1, which demonstrates that administered wholesale-level milk prices in time t , P_t , are maintained by the limitation of delivery to level Q_t . Fluid milk pricing and quota administration occurs under provincial jurisdiction, reflecting provincial authority over regulation of intra-provincial trade and the historic tendency for milk consumed in fluid form to be produced relatively close to consumption centers. In practice, fluid milk quota levels exceed Q_t by some margin; milk surplus to fluid marketings is diverted to the industrial milk market and producers have

traditionally been paid according to the monthly percentage utilization of their fluid quota shipments. Precise procedures vary by province. These are currently changing, for example, as some provinces integrate fluid and industrial milk quota and payment procedures by "single-pooling".

Table 1. Relative Levels of Support and Protection for Dairy Producers: PSE and CSE Estimates for Canada and the United States

Dates	1979-81	1986-88	1989-91	1992	1993 ^e	1994 ^p
OECD Estimates of Producer Subsidy Equivalents, Percentages						
Canada	53	77	78	75	73	68
United States	55	64	57	54	55	54
Ratio	0.96	1.20	1.37	1.39	1.33	1.26
OECD Estimates of Consumer Subsidy Equivalents, Percentages						
Canada	-42	-63	-61	-60	-60	-55
United States	-48	-52	-50	-48	-48	-47
Ratio	0.88	1.21	1.22	1.25	1.25	1.17

Source: OECD *Agricultural Policies, Markets and Trade in OECD Countries: Monitoring and Outlook 1995*. Paris: OECD, 1995.

A second element that is important to the analysis of supply management for the Canadian dairy sector, pricing by the category of milk end use or milk class, is by no means unique to the Canadian supply-management system but is prevalent in countries with developed dairy sectors. Essentially this reflects differences in elasticities of demand for the different consumer-level dairy products. These demand schedules are depicted in relatively simple form in Figure 2 as D_{ic} and D_{fc} for consumer-level industrial and fluid products respectively. The associated wholesale-level derived demand schedule for fluid milk is depicted as D_{fg} while D_{ig} relates to industrial milk. Administered price levels apply in both markets, with direct specification by provincial boards of wholesale fluid milk prices at P_{fg} , and provision for underpinning of the structure of dairy prices by federally-specified industrial product price support activities, discussed in further detail below, directed at P_{ip} and the associated wholesale price for industrial milk, P_{ig} .

Historically, with extremely inelastic demand for fluid milk and relatively more elastic demand for the traditional storable "industrial milk" products of butter/skim milk powder or cheese, the producer and wholesale level price gaps between fluid and industrial milk were relatively large. (This price gap is depicted as $P_{fg} - P_{ig}$, in Figure 2). Over time, however, the difference between fluid and industrial milk prices has narrowed. A variety of factors seem to have contributed to this narrowing. This has occurred as the earlier sectoral distinction

between fluid and industrial dairy producers and production processes has become blurred or largely nonexistent and as the range of processed dairy products has broadened to include a variety of “soft” or relatively perishable higher-valued dairy products, such as yogurt and specialty cheeses, for which demand has tended to grow (Table 2). Concurrent with these shifts in demand has been the continuing tendency for declining consumption of particular high-fat dairy products, specifically butter and standard-fat milk, and the tendency for increasing consumption of lower-fat milks. There is a consequent necessary diversion of “skim-off” milk-fat toward butter production; this is currently calculated to account for some 40 percent of Canadian butter production (Ewing, 1994); butter-fat disposition is shown in Table 3. A final contributor to narrowing of the producer-level price gap between industrial and fluid milk has been the apparent tendency for an aggressive pricing policy to be pursued for industrial milk.¹ Elimination of this price gap is an objective of some producers; this would considerably facilitate more widespread adoption of producer-level single price pooling for milk.² Producer-level single pool pricing, and associated multiple component pricing, was adopted in Ontario in 1994, now applies in some four provinces, and is proposed for wider regional adoption or even, at some future date, national adoption.

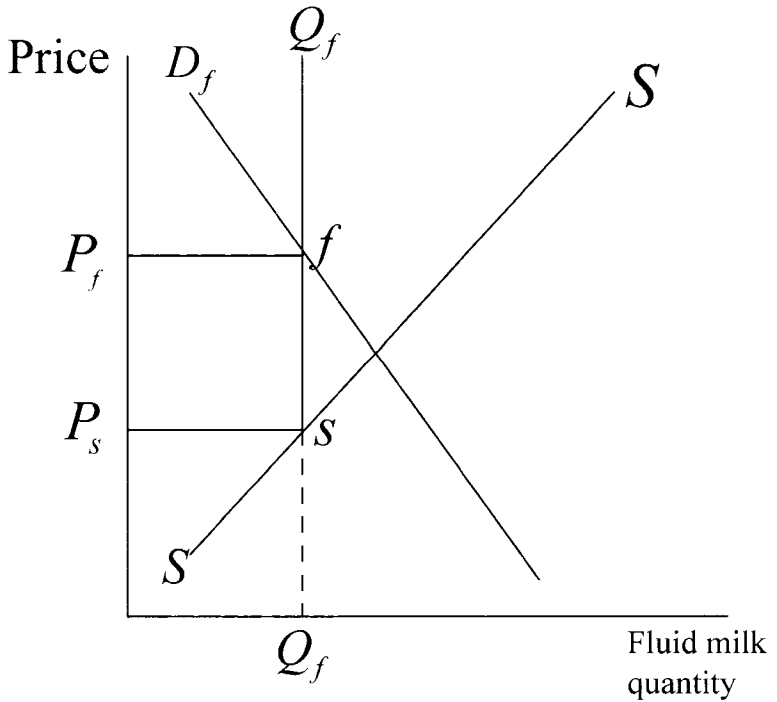
The third component of the Canadian dairy supply-management system relates to the specification of producer-level “target returns” i.e., target price, for industrial milk, which can be interpreted as P_{ig} in Figure 2, and the associated administered “offer to purchase” or “guaranteed” prices for specified processed dairy products that are in turn related to a guaranteed processing margin. The processor margin is depicted in Figure 2 as $P_{ip}-P_{ig}$. The guaranteed prices apply for the products of the lowest-valued industrial milk class, namely butter and skim milk powder. If necessary, these are maintained by purchase operations of the Canadian Dairy Commission; in recent years this has required relatively minor purchases of skim milk powder and butter.³ The regulatory system for dairy products has long been oriented to self-sufficiency in butterfat, converted to milk equivalence (with an added margin or “sleeve” to accommodate exports, less negotiated imports, and possible demand variations); consequently a “structural imbalance” i.e.. a surplus in skim milk powder

¹ This also reflects the gradual reduction in direct subsidy payments to producers of milk used for industrial processing.

² This would, for example, considerably reduce opposition to single pooling over regional areas within which there is variation in the proportion of fluid and industrial milk utilization; the extent of these differences is shown clearly in the background document on the Canadian dairy industry (Economic and Policy Analysis Directorate, 1995).

³ Offer to purchase prices have also been specified but not applied in practice for cheddar cheese. Price support operations for cheese are based on import restrictions and export assistance. In addition to purchases and sales of butter and skim milk powder, the CDC also buys and sells evaporated milk (CDC, 1995).

Figure 1. Supply Management for Fluid Milk



supplies, is associated with the Canadian supply-management system.⁴ The system of target returns and associated offer to purchase prices in effect, provides a price “floor” for the entire structure of Canadian dairy product prices. Hand in hand with these pricing procedures is the provision for national market-sharing dairy quota to limit total milk sales to levels that are consistent with the administered structure of prices, both for industrial milk usage and for milk that is sold for fluid consumption purposes, i.e., at $Q_i + Q_f$ in Figure 2. Various approaches have been taken to clear the market relative to “surplus” of production of industrial milk in excess of Q_i . These have included export subsidization financed by producers’ levies and programs to encourage domestic use of skim milk powder and butterfat.

⁴ With declining demand for butterfat relative to non-fat milk components, the structural surplus in skim milk powder supplies has declined over time; with continuation of current demand tendencies it is anticipated that the butterfat-skim milk powder imbalance will eventually be reversed to generate a structural surplus of butterfat. That is, the presumed continuation of a self-sufficiency policy then would be directed at non-fat milk components giving a butterfat surplus. Discussion of this anticipated “cross-over” is in Ewing (1994).

Figure 2. Supply Management for Fluid Milk and Industrial Milk

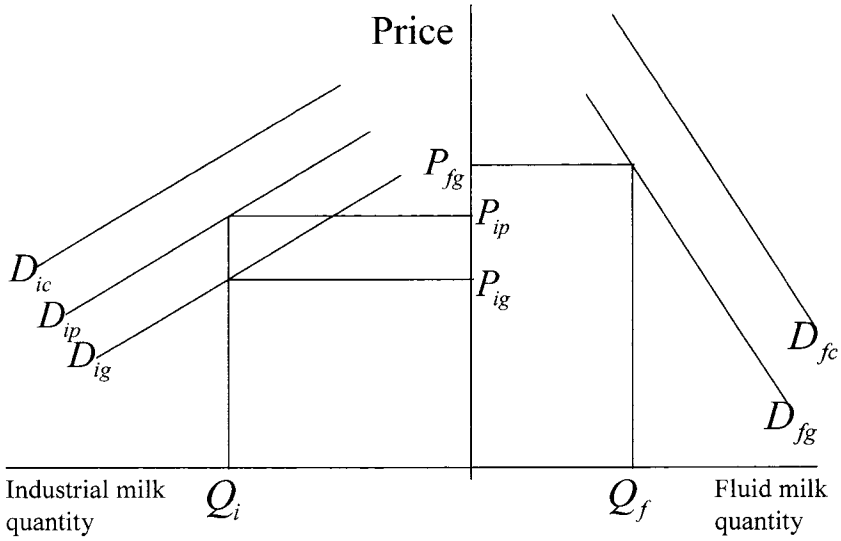


Table 2. Domestic Disappearance Per Capita of Selected Dairy Products in Canada

	Kilograms									
	Fluid Milk and Cream	Ice Cream	Yogurt	Butter	Cheddar Cheese	Fondue Cheese	Specialty Cheese	Total Cheese	Skim Milk Powder	Cottage Cheese
1983	107.83	12.51	1.89	4.36	1.47	2.21	3.91	7.59	1.75	1.22
1984	107.66	11.98	2.12	4.27	1.72	2.08	4.29	8.09	2.51	1.22
1985	106.31	12.22	2.41	4.10	2.14	2.03	4.65	8.82	1.81	1.84
1986	107.86	12.43	2.77	3.92	2.36	1.96	5.23	9.55	1.79	1.29
1987	109.22	12.13	3.20	3.92	2.34	2.06	5.51	9.91	2.25	1.22
1988	107.93	12.37	3.29	3.83	2.04	2.25	5.52	9.81	2.02	1.20
1989	103.10	11.40	3.44	3.47	2.07	2.13	5.52	9.72	2.26	1.10
1990	102.51	11.45	3.27	3.27	1.68	2.22	5.46	9.36	1.51	1.11
1991	100.70	10.86	3.17	2.98	1.86	2.01	5.53	9.41	1.11	1.03
1992	99.52	10.36	3.09	2.82	1.73	2.03	5.72	9.47	1.02	0.92
1993	96.99	10.77	3.24	2.93	1.81	1.98	5.87	9.65	1.20	0.88

Source: Statist

Table 3. Industrial Milk and Cream Use in Canada, Butterfat Basis, 1992

Amount of Industrial Milk Used to Produce Various Products:	Million Hectolitres	Percentage
Butter*	11.3	27
Cheese	21.4	51
Ice Cream	5.1	12
Yogurt	0.7	2
Other	3.4	8
Total industrial milk and farm separated cream (in milk equivalent)	41.9	100

* About 40 percent of butter is currently made from skim-off from the fluid sector.

Source: Rebecca Ewing. *The Canadian Dairy Industry: Institutional Structure and Demand Trends in the 1990s*. Working Paper 1/94. Ottawa: Economic Policy Analysis and Innovation Division, Policy Branch, Agriculture Canada, February 1994.

The considerable coverage of fluid milk production by market share quota, traditionally viewed as industrial milk quota, reflects the extensive integration, at the primary production level, of fluid and industrial milk production. These categories of milk are now distinguished primarily by usage rather than, as historically, by production process and usage. Also reflective of this integration is the considerable reduction in seasonality of Canadian milk production relative to much earlier years, as common production processes and procedures have become widespread at the primary production level and as changes in demand have occurred for major dairy products. Overall, the component of supply management for dairy that is uniquely Canadian has been its focus on restraint of aggregate production or marketings of fluid and industrial milk to levels that, after accounting for the relatively small amounts of traditional or negotiated trade in dairy products, are generally consistent with administered price levels.

The final major component of the system has been the dependence that has been placed on import controls, in order to maintain the system of pricing, outlined above, at levels that have been consistently higher and markedly more stable than in the adjacent United States market, a relationship that is shown, for example, by the industrial milk price series in Table 4. Restriction of imports was initially applied through explicit import licensing and import quota programs. Unlike the Canadian import quotas for the supply-managed egg sector which were explicitly sanctioned under the previous framework of GATT Article XI 2(c) provisions, the import quotas applied by Canada to maintain the system of dairy supply management were not explicitly assessed in terms of the requirements

of Article XI 2(c) until the then relatively recently-instituted Canadian import quotas for ice cream and yogurt were challenged, resulting in the 1989 GATT panel finding that these were inconsistent with the requirements for Article XI 2(c). Since implementation of the GATT/WTO procedures in 1995, restriction of dairy imports to the levels provided for under the access provisions of the most recent GATT agreement has been effected through the mechanism of the tariff-rate quotas that were tabled and adopted in the context of that agreement.

Table 4. U.S.-Canadian Wholesale Industrial Milk Prices

Year:	Ontario Class	Minnesota-Wisconsin		Ontario:
	V c\$/hL	US \$/cwt	C \$/hL	United States Price Ratio
1978	21.61	--	--	--
1979	24.00	--	--	--
1980	27.35	11.88	31.53	0.87
1981	30.66	12.57	34.22	0.90
1982	33.87	12.49	34.97	0.97
1983	35.74	12.49	34.95	1.02
1984	37.68	12.29	36.12	1.04
1985	38.74	11.48	35.58	1.09
1986	39.78	11.30	35.64	1.12
1987	40.23	11.23	33.80	1.19
1988	40.71	11.03	30.81	1.32
1989	40.80	12.37	33.24	1.23
1990	41.61	12.21	32.31	1.29
1991	42.84	11.06	28.78	1.49
1992	43.36*	11.88	32.59	1.33
1993	44.24*	11.80	34.50	1.28
1994	45.59*	12.00	37.22	1.22
1995	NA	11.73	34.37	NA

* Based on multiple price components.

Source: Agriculture and Agri-Food Canada compilation, based on data reported in Agriculture and Agri-Food Canada, *Dairy Market Review* and USDA, *Dairy Market News*.

MAJOR EFFECTS OF CURRENT POLICIES

The current supply-management system has been the basis of the relatively high levels of protection and support for the sector seen in Table 1. However, as trade data in Table 5 reflect, in contrast to the systems of protection and support for dairying in the United States, amongst other countries, Canadian supply management has contributed relatively little to the subsidized disposal of export surpluses and to consequent export price pressures and disruptions of world dairy markets. In contrast, more extensive export subsidization of dairy products has been pursued by both the United States and the European Union, particularly for the traditionally lower-valued surplus disposal products of butter and skim milk powder.

The major farm-level impact of the higher structure of supply-managed prices in Canada has been the comparatively high returns to the farmers in this sector, relative to non supply-managed farming, as shown in data on sectoral returns to equity and the evident tendency for these higher returns to become capitalized into quota values. In the simple static framework depicted in Figure 1, the present value of the rent represented in period t by $(P_t - P_s) Q_t$ accrues as the capitalized value of quota. Data on transaction values for fluid milk and market share quotas are available, providing a means by which aggregate supply price, e.g. P_s in Figure 1, or an associated marginal cost estimate, may be inferred. A considerable Canadian literature has developed on this issue; much of it is directed toward refinements of the simple analytic framework outlined above. This literature considers such issues as the impact of changes in price uncertainty on quota values (Moschini, 1984). Considerable attention has been directed at whether a risk premium representing possible future changes in policy may be inferred from or should be included in the calculation of annualized quota benefits or the estimation of supply price P_s (Barichello, 1993; Beck, Hoskins and Mumey, 1994; Lerner and Stanbury, 1985). Recently, the effect of adoption of technical change on quota values has been assessed (Veeman and Dong, 1995).

Failure to recognize that marginal costs of producing milk are appreciably less than current levels of prices for much Canadian milk production can lead to considerable over-estimates of the likely adverse impact of lower-price regimes, such as in a very recent paper by Bromfield *et al* (1995). The feature that marginal costs may vary appreciably between producers and the lack of reliable information on aggregate industry supply elasticities for the dairy producing and processing sectors, a byproduct of the longstanding regulatory regime, point to the need for sensitivity analysis in any quantitative assessments of policy changes.

Quota values represent an appreciable component of total capital assets of the Canadian dairy sector. Consequently, debt levels and associated financing costs for Canadian dairy producers exceed those for United States dairy farmers. The major obvious impacts of Canadian policy for the dairy processing sector are the relatively high structure of wholesale prices for milk that face primary processors, the higher dairy ingredient prices that face further processors, and the tendency for profitability in this industry to be somewhat greater than in most other Canadian food industries (Economic and Policy Analysis Directorate, AAFC, 1995).

Table 5. Average Exports and Market Shares for Selected Countries of Butter, Cheese, and Nonfat Dry Milk, 1990-1993

Item	Butter			Cheese			Nonfat Dry Milk					
	1990	1991	1992	1993 ¹	1990	1991	1992	1993 ¹	1990	1991	1992	1993 ¹
Annual exports ²	740	794	719	698	755	769	783	873	817	787	982	799
	Thousand metric tons											
European Union ³	36	51	32	27	58	59	58	58	42	32	39	31
United States	4	8	22	23	2	1	2	2	1	9	13	18
Canada	1	2	2	1	1	1	2	1	5	5	3	2
New Zealand	31	22	31	33	12	13	14	14	22	22	17	14
Australia	7	7	8	10	7	8	9	10	12	16	12	16
Total	79	90	95	94	80	82	85	85	82	84	84	81
	Percentage Shares ²											

¹ Preliminary.

² Excludes intra-EU trade.

³ Formerly the European Community (EC).

Source: Dairy: World Markets and Trade Circular, U.S. Department of Agriculture, Foreign Agricultural Service as reported in USDA, ERS - Economic Report Number 705, April 1995.

Other impacts of dairy policy on the structure and efficiency of the Canadian dairy producing and processing sectors are not easily quantified, since it is not easy to disentangle the expected effects of a system of protection and support, such as achieved in the United States through other mechanisms, from the regulatory mechanisms of the Canadian supply-management system. For example, economists expect, other things being equal, that the higher the levels of support and protection, the less will be the incentive to adopt available cost reducing processes or practices. However, since the sector is considerably regulated and protected in both nations, such x-inefficiency impacts may not differ greatly between Canada and the United States. And it is not clear that differences in the structure and efficiency of dairy production and processing between Canada and the United States should necessarily be attributed to the differences in market intervention and regulation for dairying in these two countries.

Differences in industry structure are also necessarily affected by differences in economic pressures that arise from differences in population size, its geographic dispersion and location, and other dimensions of the economic structure of the two nations. For example, other things being equal, the regional dispersion of a smaller Canadian population base can be expected to contribute to somewhat smaller sizes of milk treatment and dairy processing plants in Canada than in the United States, reflecting higher levels of transportation costs, relative to processing costs. Even so, the Canadian milk producing and processing sectors have undergone considerable structural changes over time as the numbers of dairy farms and processing plants have decreased, the sizes of those remaining have increased, and new production and processing technologies have been adopted. These changes are outlined in more detail in a background document to this conference (Economic and Policy Analysis Directorate, AAFC, 1995). Details on institutional structure are also given by Ewing (1994). Some performance indicators that reflect some of these and other features are listed in Figure 3 and Table 6.

There are some general expectations of the nature, though not necessarily the magnitudes, of other effects of Canadian dairy policy on industry structure and efficiency. Specifically, the division of power between federal and provincial legislative authorities and the distinct interest of provincial governments in maintaining within their regional borders the income and employment generated by farm production and agricultural processing activities has contributed to a relatively static pattern of distribution of dairy production and processing among provinces. For example, the regional distribution of industrial milk production shown in Table 7 has changed very little over time. To date, provincial boards and governments have had little or no interest in fostering changes in policy that might lead to potential shifts to other regions of dairy production, such as the proposed introduction of a quota exchange to provide for cross-provincial quota transactions. Further, there is relatively little, if any, movement of unprocessed milk across provincial boundaries and there is an associated pronounced tendency for provincial self-sufficiency in production and consumption of fluid milk.

In general, it is expected that such features will increase production and processing costs, particularly if there are significant economies of size in production or processing or appreciable regional differences in production and processing costs (relative to associated

transportation costs). However, the extent of these potential impacts on production and processing costs is not clear.

Some earlier restrictions on intra-provincial quota movement have largely been removed. Currently restrictions on geographic transfer of milk production and processing typically do not apply within provincial boundaries; active quota exchanges facilitate intra-provincial quota allocation in most provinces. However, restrictions on individual farm sizes that place a limit on individual producers' production organization in some provinces may also be expected to place some upward pressure on farm-level production costs.

CURRENT POLICY CHANGES, POSSIBLE FUTURE POLICY DIRECTIONS AND ASSOCIATED TRADE ISSUES

Canadian dairy policy is undergoing a number of changes. Some of these are being pursued in response to changes in consumer demand. Examples are the moves to multiple component pricing introduced at the producer level by several provincial milk boards. Response to changes in consumers' preferences is also the factor underlying recent adjustments by the federal dairy regulatory body, the Canadian Dairy Commission (CDC), to increase the relative levels of guaranteed prices of skim milk powder, relative to butter, by "cross-loading" increases in the support prices for these products on to skim milk powder, rather than butter prices. This move is intended to encourage consumption of butterfat relative to solids-not-fat dairy components. A similar objective of stimulating butterfat utilization by decreased pricing underlies the butter utilization rebate program introduced by CDC in 1991.⁵

Some policy adjustments for dairy and other farm sectors have been instituted by government in order to reduce budgetary outlays. For dairy, this encompasses the federal decision to reduce dairy subsidy payments to industrial milk producers. These "direct support payments" to milk producers represented, in 1994-95, some 10.4 percent of the target prices, compared to 24 percent in 1975. Further decreases in direct subsidy payments to producers will occur over the next two years (CDC, 1995).

⁵ Another CDC program, the long-standing "Animal feed assistance policy" is intended to encourage use of skim milk solids in animal feeds by providing these at prices that are competitive to world market price levels.

Figure 3. Performance Indicators in the Canadian Dairy Industry: Recent Evidence, Issues and Questions

Levels and Types of Indicators	Observable Results	Issues at Stake/Questions
A. Milk production level: some partial productivity indicators		
Herd size	Average herd size in Canada increased from 36.3 in 1985 to 48.4 (1994), a figure that masks both local and regional variation (see, for e.g. the relatively small average size of herds in PEI relative to larger herds in Alberta and B.C. shown in Table 6; a measure of the regional distribution of production is in Table 7).	Are there disincentives to adoption of labor saving technology that will continue to reinforce the trend toward fewer and larger dairy farms? What is the “sustainable” potential for adjustment of farm costs of dairy production in Canada to United States levels? Will structural and technological adjustments that enhance resource productivity be sufficient to fill this gap?
Production / year / cow	In Canada, annual average milk production/cow is somewhat less than in the United States.	
Other measures	The volume of milk produced per unit of labour (an individual’s year of work) continues to be significantly lower in Canada than in the United States.	
Costs of production per farm	Dairy farmers (and processors) in Canada face slightly higher input costs than in the United States and a rather higher structure of costs than in Australia and New Zealand. Cost-of-production studies from the late 1980s and early 1990s indicate that, depending upon the size of farms, mechanization levels, and use of modern technology, costs of milk production/hectolitre in Canada, after exchange rate adjustment, are about 10 percent higher than in the United States.	There is evidence of considerable variability in costs, within different farm size categories, that apparently reflects differences in management capabilities and farm situations. Alternate employment and non-farm opportunities limit the exodus from dairy farming, however, the opportunity cost of labour in the general economy is adjusting downward. In dairy production and processing, as in all other industries, such indications of absolute advantage do not necessarily translate to indicators of comparative advantage.

B. Milk Processing Level

Levels and Types of Indicators	Observable Results	Issues at Stake/Questions
Size of plants	In Canada, sizes of both primary and further dairy processing plants are increasing over time with amalgamations, particularly in the cooperative processing subsector that dominates in this industry (as in many other nations). However, processing plants do tend to be smaller than in the United States.	In Canada (likely more so than in the United States) geographic and structural mismatches between milk supplies in local milksheds and existing manufacturing capacity may have contributed to regional market imbalances which may reduce the existing competitiveness of the entire sector.
Plant utilization rates	In the early 1990s, Canadian processing plants for each group of dairy commodities operated at or under 70 percent utilization rates.	
Processing costs	Once the fact that both primary and further processors must pay relatively high dairy input prices in Canada is neutralized, no major differences in potential competitiveness have been concluded for Canadian ice cream, yogurt and cheese processing. However, sectoral competitiveness may be weakest for cheddar cheese and ice cream processing plants.	Are milk treatment and dairy processing relatively "footloose" industries? Are technological changes that might affect the market (or supply) orientation of these industries available or are these constrained by current regulations?

Other policy changes have been pursued by industry and facilitated by government or undertaken by government following industry consensus, in response to recent changes in international trade agreements and pressures. For example, this includes the introduction noted above, by Canada, in the mid-1980s of import quotas for ice cream and yogurt in anticipation of the phased-in decrease in United States-Canadian tariff schedules for processed foods, amongst other items, under the provisions of the Canada-United States Trade Agreement (CUSTA). As noted above, these import restrictions were determined by the GATT panel in question to be inconsistent with the provisions of Article XI. The GATT panel found, for these processed dairy products, that "... ice cream and yogurt do not meet the requirements of Article XI: 2(c)i) for "like products" "in any form" to Canadian raw milk nor would their free importation be likely to render ineffective the Canadian measures on raw milk production" (GATT, 1989). This ruling potentially placed in question all Canadian import restrictions on processed dairy products under the previous Article XI provisions. Subsequently, these import quotas, and the other import licensing and quota provisions for supply-managed products, were converted by Canada into bound tariffs, in the form of tariff rate quotas, under the auspices of the recent GATT/WTO agreement.

Table 6. Average Number of Cows Per Farm in Each Province and in Canada, 1985 to 1994

Province	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Prince Edward Island	25.8	26.5	25.6	24.7	26.5	28.3	28.5	29.5	32.2	36.7
Nova Scotia	41.4	43.0	40.5	39.8	40.7	42.4	42.7	43.9	48.2	53.7
New Brunswick	35.1	37.4	37.5	39.0	40.1	42.3	44.5	46.8	48.2	53.8
Quebec	35.0	34.3	33.0	34.4	35.3	36.5	37.4	37.9	39.5	42.7
Ontario	39.2	39.8	38.6	39.2	40.1	41.4	42.3	42.8	42.9	47.8
Manitoba	25.2	25.3	25.0	25.5	27.6	28.9	27.6	29.6	31.6	46.8
Saskatchewan	23.9	23.3	23.9	27.9	30.2	33.4	34.3	38.3	42.0	58.1
Alberta	39.2	43.1	46.0	49.4	50.0	51.4	54.1	56.3	56.7	74.7
British Columbia	79.0	77.9	70.5	71.4	72.4	73.7	74.9	76.0	78.5	83.8
Canada	36.3	36.6	35.8	37.1	38.2	39.7	48.6	41.6	43.0	48.4

Source: Berger, Annie, Line Côté and Diane Gilbert. 1995. "Les Faits Saillants Laitiers Québécois, 1995", 9e édition. Université Laval: Groupe de recherche en économie et politique agricole.

Table 7. Some Regional Features of Canadian Dairy Production and Markets

Province	Provincial Share of National Marketing Sharing Quota (msq) July 1995, Percentages
Prince Edward Island	1.9
Nova Scotia	1.3
New Brunswick	1.2
Quebec	47.6
Ontario	30.9
Manitoba	3.8
Saskatchewan	2.5
Alberta	6.5
British Columbia	4.3
Canada	100.0

Source: Computed by GREPA (Groupe de recherche en économie et politique agricole) from unpublished data supplied by the Canadian Dairy Commission.

The Canadian “tariffication” rates for dairy imports that exceed the import commitment levels are shown in Table 8. These, in effect, prohibit importation beyond the committed import access provisions, a feature that is expected to continue through the current WTO agreement period. The current challenge to these tariff provisions by the United States, based on the contention that CUSTA/NAFTA should prevail over the GATT/WTO provisions,⁶ is viewed in Canada to be primarily an expression of political action to force negotiation of more favourable terms of import access to the higher-priced Canadian market. The import access provisions of the GATT/WTO agreement were intended to provide for minimum import levels equivalent to some 3 percent of consumption, rising to 5 percent over the agreement period. Canada followed the lead of the United States in adopting somewhat lower percentage import access levels than this for some dairy products, notably for butter and ice cream. The low Canadian import commitments are comparable (in percentage terms) to the relatively low import access commitments of the United States.

The need for policy changes arising from the pressures of changes in trading regimes has both fostered and been facilitated in the past four years by a strategic linkage, for purposes of policy adjustment, of the major industry associations of dairy producers and processors. The joint interests of both groups in this process became particularly evident as

⁶ A discussion of this NAFTA panel process is given by Meilke (1995).

provisions of the Canada-U.S. Trade Agreement came into force. This agreement and the subsequent North American Free Trade Agreement have considerably lowered tariffs on trade between the United States and Canada. By the late 1980s, Canadian food processors were expressing concerns about increasing cost-price pressures that affected them from the simultaneous pressure of high priced domestic dairy ingredients and increasing competition from processed food imports, particularly for food imports in which dairy ingredients are appreciable inputs, as is the case for frozen pizza and chocolate products.

These pressures were a major feature in the introduction, in 1992, of a system of rebates on dairy ingredient inputs to food processors. This program, and the butterfat utilization program noted above, have been credited by the Canadian Dairy Commission with increasing the domestic utilization of butterfat. In order to adjust to the requirements of the GATT/WTO multilateral trade agreement, this system of rebates, and the long-standing arrangements whereby producer levies or drawbacks have been used to subsidize exports of butter and skim milk powder, as well as the exportation of cheese⁷, will change. These procedures will be replaced by extensions of the system of price discrimination by end use of milk. Associated with this is the development of a milk class permit system intended to provide competitively priced supplies of milk/dairy products that are required ingredients by domestic food processors who must compete with tariff-free food imports, for example, frozen pizza. This mechanism of allowing processors to access milk components at competitive prices may also be oriented to current exportation and future export development of dairy products. Levies will be used to subsidize exports of skim milk powder only, in order to overcome the limitations on export subsidization that are now provided by the GATT/WTO agreement (CDC, 1995).

⁷ Subsidies on cheese exports have been provided through the "Dairy Product Export Assistance Program."

Table 8. Canadian Tariff Equivalents for Dairy Imports. 1995 and 2001¹

Product	1995 Tariff		2001 Tariff	
	Percent	Minimum	Percent	Minimum
Milk	283.8	\$40.6/hl	241.2	\$34.5/hl
Cheddar Cheese	289.0	\$4.15/kg	245.7	\$3.53/kg
Butter	351.4	\$4.71/kg	298.7	\$4.00/kg
Yogurt	279.5	\$0.55/kg	237.5	\$0.47/kg
Ice Cream	326.0	\$1.36/kg	277.1	\$1.16/kg
Skim Milk Powder	237.2	\$2.36/kg	201.6	\$2.01/kg

¹ The specified over-quota tariffs will be reduced by 15 percent over the 6 years subsequent to 1995; the much lower within-quota tariffs will fall by 57 percent, satisfying the GATT agreement requirement for tariffs to fall by 36 percent during implementation.

Source: Agriculture and Agri-Food Canada.

CONCLUSION

The industry-motivated policy changes that arise from trade pressures noted above have been introduced as “revenue-neutral” programs from the perspective of Canadian dairy producers. These include the considerable extension of price discrimination by use class of milk, direct subsidy reduction, coordination of levies on fluid and industrial milk, multiple component pricing, single price pooling, price “cross loading”, and the introduction and use of price rebate programs. Thus policy changes affecting the Canadian dairy sector have, to date, avoided the issue that the levels of dairy prices for producers, processors and consumers in Canada are considerably higher than are price levels in the adjacent United States market. The failure to come to grips with this problem, which involves considerable political sensitivities, appears to constitute one of the most compelling future policy challenges for the Canadian dairy sector. It is certainly a major source of current dairy trade tensions between the two nations. With adoption of the principle of tariffication, the issue of relatively higher Canadian price levels can be expected to be reduced in the longer-term, in the context of successive multilateral negotiations. It remains an open question as to whether other external pressures, as from the current United States trade action, or internal political decisions, will change this situation in the shorter-term.

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