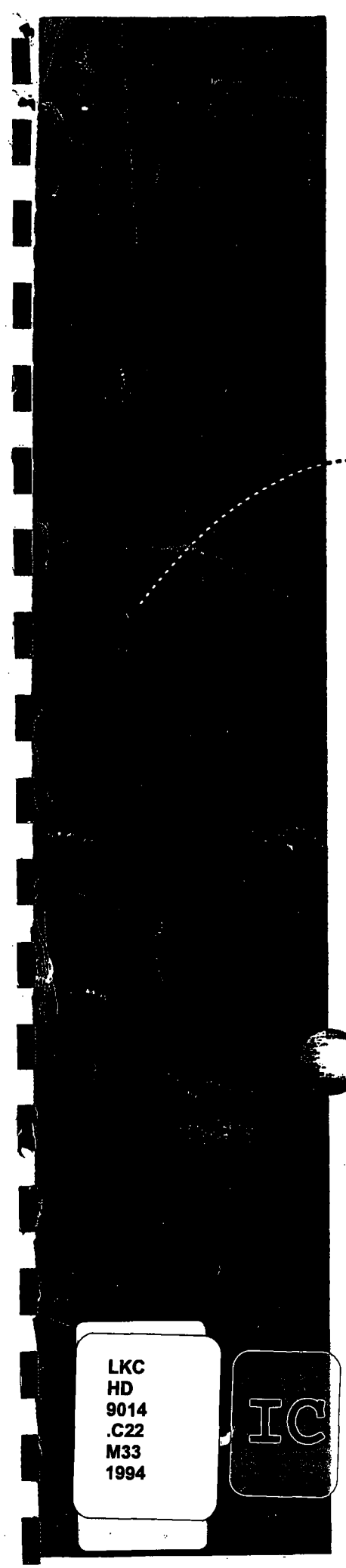

COMPETITION IN THE AGRI-FOOD INDUSTRY

A Report for the Bureau of Competition Policy

By

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August 6, 1994

The analysis and conclusions of this paper represent those of the author and do not necessarily reflect the views of the Bureau of Competition Policy.

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COMPETITION IN THE AGRI-FOOD INDUSTRY

1.0 Introduction and Objectives

This project is undertaken at the request of the Bureau of Competition Policy to assist it in enhancing competition in the agri-food sector. The request is particularly timely given that major changes in policy have recently occurred, specifically the GATT and NAFTA accords, the initiation of regulatory reform in Agriculture Canada and other relevant departments, and the possibility of rather substantial changes in institutional relationships in the grain markets. The specific objectives are:

(1) To establish a conceptual model or benchmark study to identify and evaluate opportunities for pro-competition policy and regulatory advocacy; and

(2) To identify potential areas of concern for enforcement of the Competition Act.

In approaching these objectives, we have taken the tack of asking, what changes in policy are required to enhance the efficiency of the agri-food sector? We perceive that enhancing competition is a worthy goal, but it is especially worthy as a means of lowering costs and/or of enhancing the quality and value of products. Enhancing competition and policies to do so must be viewed in a systemic framework as part of the whole. Competition is well defined in the economic literature and refers to the structure of an industry, the degree of homogeneity of products, the characteristics of entry and exit, and the nature of rivalry among firms.

It may be well to note that the agricultural policy agenda has turned in recent years toward issues of competitiveness, and that competition and competitiveness have sometimes been considered to be in conflict. We subscribe to the definition of firm or industry competitiveness that was put forward by the Task Force and Council on Competitiveness in the Agri-Food Sector:

> "Competitiveness is the sustained ability to profitably gain or maintain market share in the domestic and export markets".

This definition describes a firm or an industry in Canada that operates at a level of cost and/or provides a level of value in its products or services that convince domestic or export customers to purchase the product or service in sufficient quantity that Canada's market share is enhanced and at sufficient price to make an acceptable profit.

We do not regard competition and competitiveness to be in conflict. Those who believe they are in conflict seem to subscribe to the view that competitiveness is only achieved through being the low cost producer. From this it is inferred that being the low cost producer is achieved mainly through high volume with economies of size. The final part of the logic is that economies of size are achieved with high concentration and, therefore, with a diminution of competition.

In our view, the foregoing reflects an over simplified 1960's way of thinking. We prefer the thinking of Edward Debono who, in teaching creativity, observes that when firms get big, "lean, mean and efficient" no one has competitive advantage left by cutting cost, and that most firms have cut out the very sources of creativity that would have given them competitive advantage.

Our view is that, for the most part, enhancement of competition generally enhances competitiveness. As the review of policies will endeavour to make clear, a fundamental point is that competitiveness has been limited by public policies that either protect firms (including farms) or prevent them from the need for and consequences of competition.

Similarly, while we are proponents of collaboration and strategic alliances, these are concepts that are meant to enhance competition. All of our work has placed the major emphasis of collaboration on vertical systems and has been clear that we regard vertical alliances as substitutes for vertical integration and, therefore, has been anti-concentration.

The study is presented in three stages. First, the evolution of policy is briefly described for each major industry (poultry, dairy, grains and oilseeds, and red meat). We begin with poultry, dairy and grains and oilseeds because we perceive that they have been among the most protected and have had the lowest levels of competition. Inferences are drawn about the consequences for competitiveness and competition. In addition, at this stage we discuss the possible impacts of the recent policy changes mentioned above.

Third, alternatives are presented for changes in policy and opportunities are explored for changing it. Side by side with the economic framework used in this study, it is important to have a political framework. Throughout the discussion, we focus on the ways policy and the policy making framework have evolved. This is done in order to contribute to the final objective.

2.0 Agricultural Industries

In this section we examine four major agri-food industries to develop a provisional descriptive/analytic model for each. The poultry and dairy industries are the most controversial, and they are first on the agenda. We then examine the grains and oilseeds, and red meat industries.

2.1 The Poultry Industries

The poultry industries operate under supply management. While the operations of each is idiosyncratic (see below), all three of turkeys, eggs and broiler chickens have national marketing agencies which were formed under the *National Farm Products Marketing Act of 1972*. In general terms, this Act allows poultry marketing boards to establish farm level prices in the domestic market and assign production quotas to farmers. It expressly exempts boards from the *Combines Investigation Act*, as follows:

> "Nothing in the *Combines Investigation Act* applies to any contract, agreement or other arrangement between an agency and any person or persons engaged in the production or marketing of a regulated product where the agency has authority under this or any other Act, under a proclamation issued under this Act, or under an agreement entered into pursuant to section 32 of this Act to enter into such an arrangement."
>
> Source: An Act to establish the National Farm Products Marketing Council and to authorize the establishment of national marketing agencies for farm products. Chapter 65, pp 2060, January 12, 1972.

The circle of protection is completed by the imposition of import quotas which were sanctioned under Article 11 2(c) 1 of the GATT.

Initially, the administration of the supply management programs was a completely horizontal matter; ie. the boards operated rather unilaterally by and for farmers. As the controversy surrounding their performance has grown, they have increasingly been pressured to allow more input from their customers. Processors and, to a lesser extent, retailers and consumers have had a growing role in decision making. This has led to some interesting results in terms of performance, as will be shown below.

The controversy about supply management, as it was operated until 1994, has raged since before it started, and continues unabated. The general arguments are outlined below. The rationale for supply management has several components. It supposedly protects the "family farm". It reduces market instability by reducing fluctuations in supply and, therefore, in price. It can increase farm incomes with a modest reduction in supply if demand is relatively price inelastic. It can provide higher farm incomes and market stability at no direct cost to the government.

It also has negative consequences. It is a regressive tax on consumers - prices are raised for everyone and therefore affect the poor the most. It's benefits are capitalized into quota prices and/or lead to a ratchet effect on product output and prices. It essentially prevents, or at least curtails, innovation into export markets. Quota and its cost is a barrier to entry in the market. Finally, by reducing the level of output, it results in reduced investment and employment in processing.

To further set the stage, a synopsis of important historical developments in the approach each of the industries use in market management is presented below.

2.1.1 The Egg Industry

Prior to the early 1960's, there was no regulation of egg marketing in Canada. However, with the development and adoption of technology (eg. controlled lighting and closed barns) which permitted the year round production of eggs, producers became dissatisfied with the level of competition in the industry as some producers were being squeezed out as others became larger. Also, provinces encouraged local production that caused political problems as provinces began to compete for market share. This led to the implementation of marketing boards at the provincial level during the 1960's. Following a period of depressed egg prices and passage of the *National Farm Products Marketing Act*, the Canadian Egg Marketing Agency (CEMA) was established in 1972 with the objective of ensuring that domestic production meets domestic demand and that producers receive fair returns from production.

CEMA is responsible for determining the national production quota, and for distributing it to the provinces, where provincial marketing boards then allocate it to individual producers. CEMA is also responsible for ensuring that producers receive a "fair" return for their labour and investment. To do this, CEMA uses a cost of production (COP) formula method. This involves surveying a random sample of producers across the country approximately every three years to determine what their costs of production are and how they change over time. These costs include pullets, feed, labour, depreciation and overhead as well as interest and producer returns such as land, equipment and buildings used in egg production. At best, this gives an average cost of production. To the extent that prices are based on COP, there is a virtual guarantee that the resulting price is unrelated to either a supply or demand relationship in the market.

The provincial marketing boards use the results of CEMA's cost of production formula as a guide in determining the price which producers should receive for Grade A Large eggs. Updates are calculated on a regular basis, either monthly or quarterly, depending on the cost involved. In regard to the pricing of eggs of other sizes and grades, the provincial boards, in consultation with CEMA, determine the price spreads to be received by producers within their province.

CEMA also operates a surplus removal program under which eggs not consumed in the table market at the price established by the boards are considered an industrial product. They are bought from the table market at the marketing board established price and then sold on the

"breaker", or processing market. At the limit they are sold at the Urner Barry (United States) breaking stock price to processors who boil the eggs or break and pasteurize them for domestic use. This product is then sold to food manufacturers, such as bakeries or pasta companies, or to food service operators who use dried, liquid or frozen eggs in place of fresh shell eggs.

Breaker egg prices are markedly lower than table egg prices. Hence CEMA loses money on the transaction. To illustrate, if producers have quota for 100 dozen eggs during a given period, the table egg price is set at $1.00 per dozen, and only 90 dozen are sold, then CEMA buys the eggs and sells them on the breaker market. If the breaker price is $.50 per. doz., then CEMA loses $.50 on each of the 10 surplus dozen. In theory, the loss is financed by a levy charged to producers that is spread across all production. Staying with this example, the loss would be $5 and the levy would be $.05 per dozen. In fact, CEMA has had considerable trouble over time keeping the surplus removal fund in balance.

Some Aspects of Performance

Part of the reason CEMA exists, at least philosophically, is "to protect the family farm". There is nothing inherent in supply management that does this. Rather, by removing price risk and setting prices at the level of the average producer, it actually invites risk averse, efficient industrial corporations to enter. Protection of the family farm only occurs by limiting the amount of quota an individual operation can own. Despite this, one operator in Ontario controls nearly 400,000 worth of quota, and one company (associated with the same grower) has nearly 50% of the egg grading station capacity of the province. This has occurred by combining a number of operations into one through the use of several purchasers' names.

Pricing performance for table eggs in Canada has been interesting. Figures 2.1 - 2.3 contain quarterly farm and wholesale prices and price spreads for Canada and the U.S. since 1989. The following inferences can be drawn about them:

1. Canadian prices are higher and more stable.

2. U.S. prices have trended downward, while Canadian prices have been held relatively constant.

3. With the exception of 1991/1992, wholesale to farm margins have been about the same in the two countries. Hence, the difference in wholesale prices between the two countries is largely attributable to higher farm prices in Canada.

Figure 2.1: Comparison of Egg Farm Price in Canada and the U.S.: 1989 - 1993

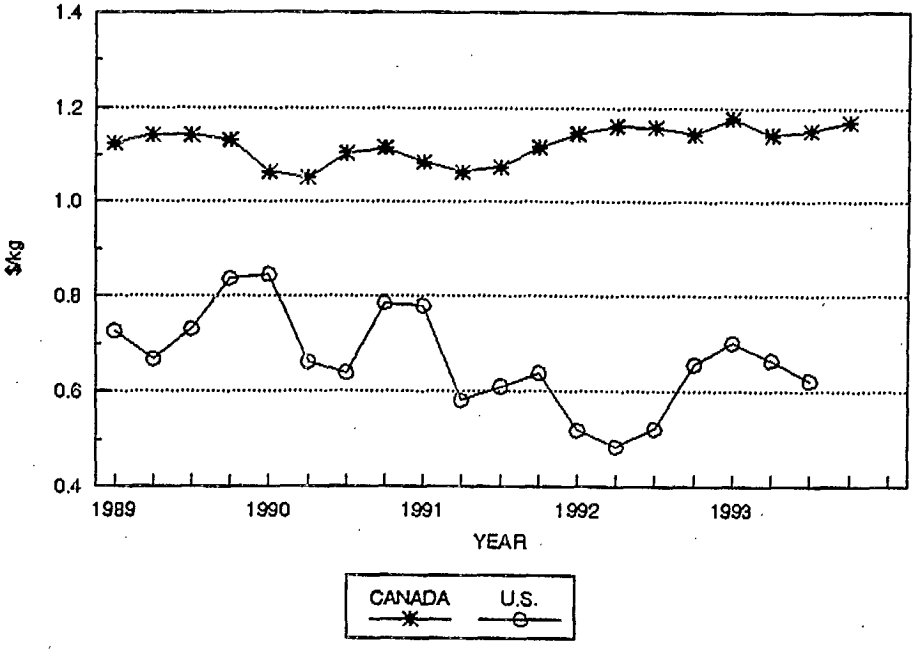


Figure 2.2: Comparison of Egg Wholesale Price in Canada and the U.S.: 1989 - 1993

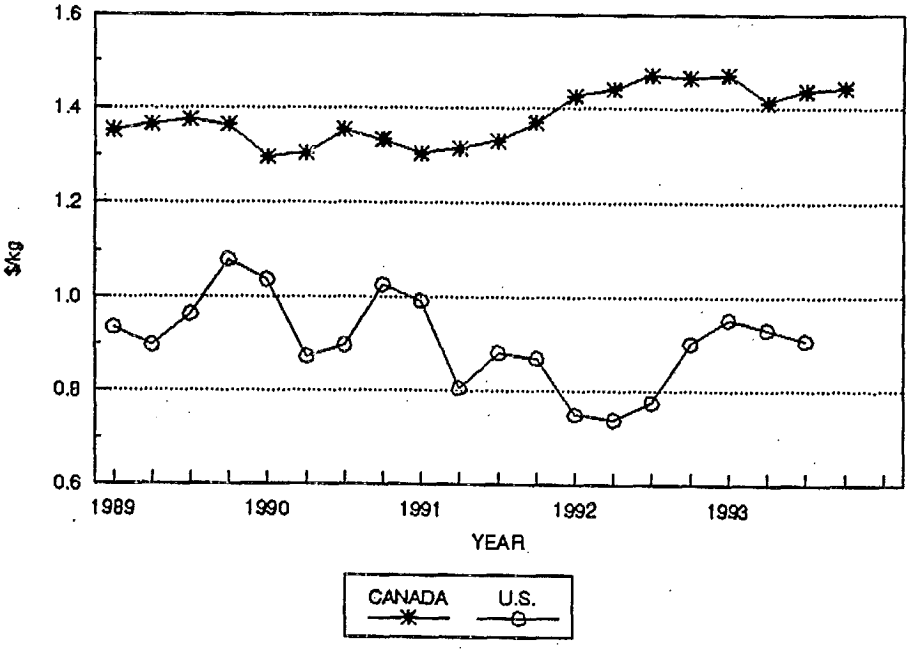


Figure 2.3: Comparison of the Spread Between Canadian and U.S. Wholesale and Farm Egg Prices: 1989 - 1993

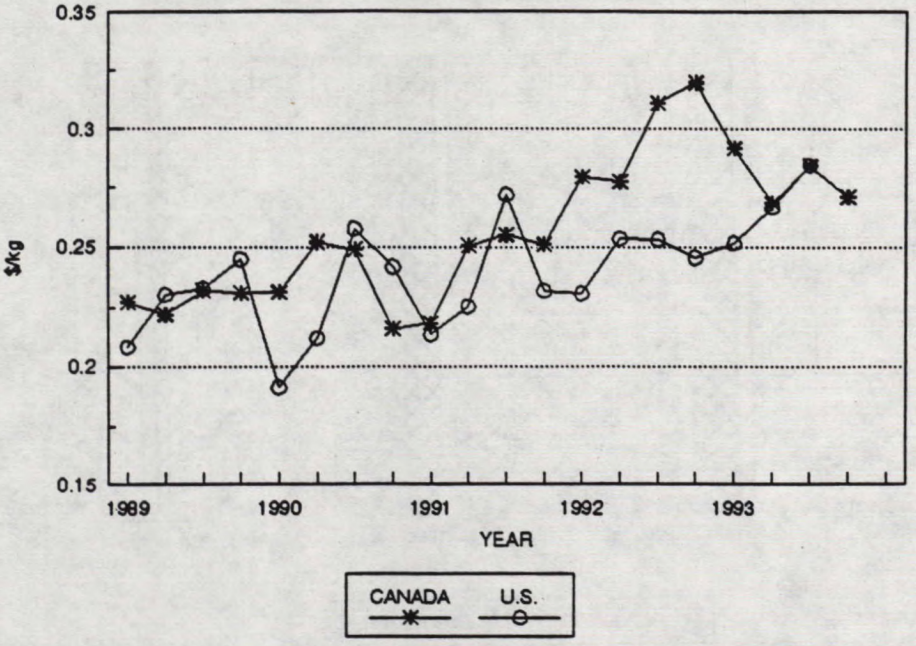


Figure 2.4: Contribution of Farm Price and Other Costs to Egg Wholesale Price in Canada: 1980 - 1991

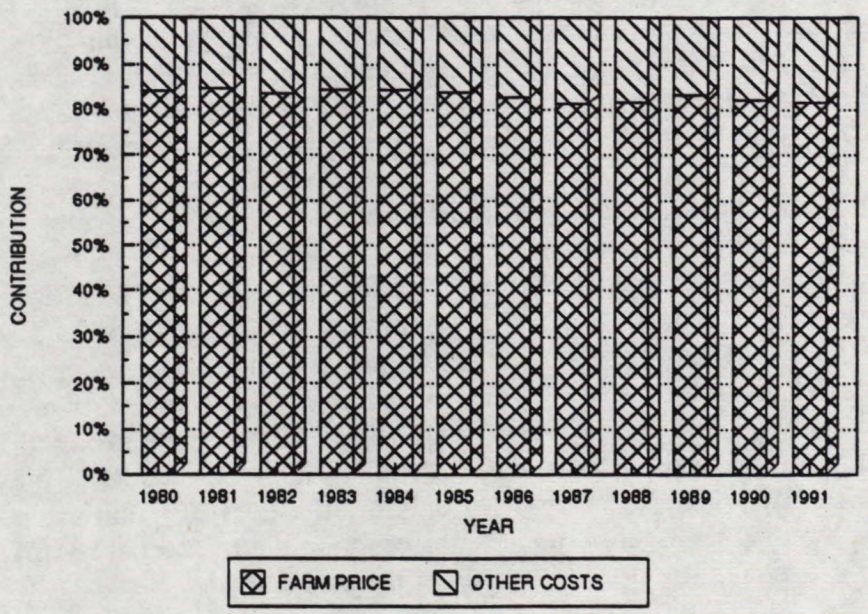
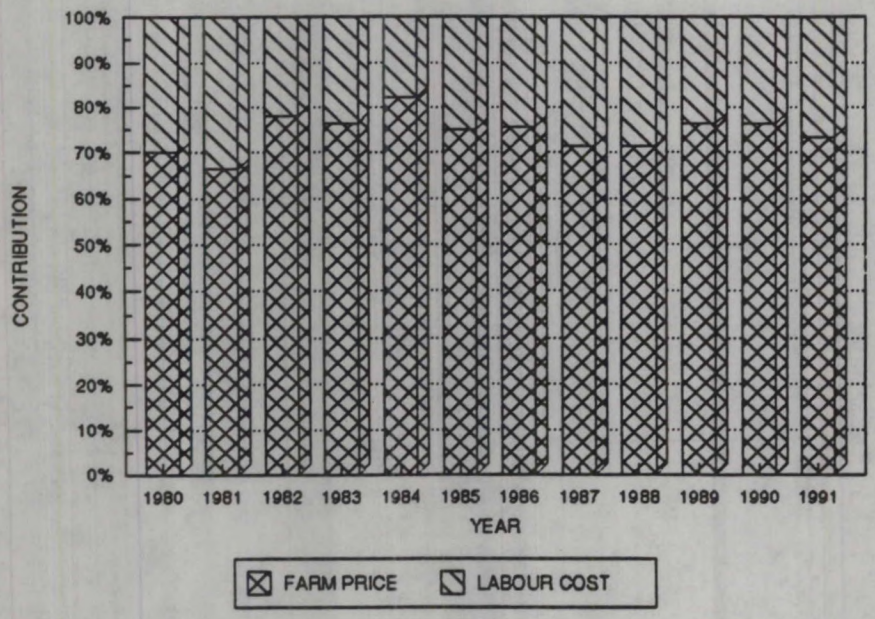


Figure 2.5: Contribution of Farm Price and Other Costs to Egg Wholesale Price in the U.S.: 1980 - 1991



A second way to look at pricing performance is to show the percentage contribution of each of the farm price and the wholesale margin to the wholesale price. These are in Figures 2.4 and 2.5 for annual data since 1980. Given the absolute price differences already noted, it is not surprising that farm prices contribute a higher percentage in Canada. What is relatively surprising is that the percentage is so constant. This suggests that wholesale pricing decisions in Canada are made by marking up the farm price by a fixed percentage.

Potential Effects of Recent Trade Agreements

NAFTA, in itself, had no implications for the egg industry. However, tariffication as a result of GATT and, possibly, GATT's minimum access provisions will affect the industry. The extent of their effects depends on the extent that tariffs decline. Canada's interpretation is that tariffs will decline by only 15% over six years. If this is correct, then the egg industry will be little affected because Canada's tariff will be 192%. The data in Figures 2.1 and 2.2 show that Canada's wholesale price has not been even 100% higher than U.S. prices since 1988, and the farm price difference exceeded 100% only briefly in 1992. Thus Canada's tariff will give more protection than the import quota it replaces. On the surface, at least, it would appear that CEMA could continue to operate as it has in the past.

The U.S. argues on the other hand that, because of NAFTA, Canadian tariffs must be phased to zero. If the U.S. is correct, there will most assuredly be an effect on the egg industry. It would eventually need to abandon its pricing structure and, perhaps, any their current type of quantity control.

Thus the benefits of using a marketing board would have to result from a shift in its operations to be consistent with more open competition. It is not clear what these operations would be for the table portion of the market. Given the nature of the table egg market, there is little scope for product or market differentiation. Hence the range of operations may be limited to provision of marketing or pricing facilities that would assist in producing operational and/or pricing efficiency - somewhat like the role played for years by hog marketing boards. Another possibility is for the Boards to take a leadership role in differentiating Canadian product. This could be done through research and development, and by identity preserving "designer" eggs with preferred characteristics. Were this to occur, then Boards could have additional functions for table eggs similar to those suggested below for processed eggs.

The market for processing eggs is somewhat different. It already has, and will continue to offer, considerable scope for differentiation. This occurs in the processed product, its packaging and other service characteristics, and could be based on the characteristics of the egg. With the opportunity for different end uses, there are many opportunities for marketing board involvement. They range from financing the research and development required for producing differentiated product, through negotiation of contractual terms between producers and processors for particular categories of eggs.

Our assessment has been and continues to be that Canada's interpretation in the NAFTA-GATT disagreement is correct. NAFTA identified separate relationships between each pair of the three countries on supply managed and other protected industries, and made direct reference to the possibility of new instruments of protection from the GATT round. Moreover, the U.S. accepted Canada's tariff schedule at Marakkesh at the end of the GATT negotiations with no objections. We expect this will be taken as evidence by a NAFTA panel that elimination of tariffs does not apply to these commodities. The current situation with high tariffs result in a particular analytic structure with which to analyze this market. It is similar to the one that will be developed for chicken and turkey. Hence, we will describe them first.

2.1.2 The Broiler Chicken Industry

The Canadian Chicken Marketing Agency (CCMA) was established in 1978 to bring stability and order to the Canadian domestic chicken market. The CCMA sets the national chicken production level and allocates quota to the provinces, where the provincial marketing boards distribute it to producers, regulate producer prices and control interprovincial movement of quota.

The CCMA does not set national prices as provincial boards have been granted price setting power. However, the CCMA determines cost of production on a regional basis. At its

beginning, the CCMA used the cost of production (COP) formula developed by the Ontario Chicken Producers' Marketing Board (OCPMB) which included allowances for direct costs such as feed, chicks, hired labour, energy, repairs, maintenance, allowance for management, use of capital, etc. It substituted regional input prices to determine regional COP estimates. Later, the CCMA introduced regional cost of production surveys to increase the accuracy of the COP estimates. In 1990, the CCMA decided to adopt a model farm approach to identify the fixed costs and a survey of producers across Canada to identify variable costs for each province. Two enhancements have since been made to the determination of production costs. First, industry stakeholders were added to CCMA's COP Committee. Second, a factor to account for efficiency in chicken production was added to the COP formula. This efficiency factor is simply the removal of the 10% highest cost producers so that the COP is established based on the least cost producers in the industry. There has been some talk of removing 20-30% of the highest cost producers. CCMA and the provincial boards update these COP estimates on a monthly basis.

The provincial producer marketing boards use COP estimates as guidelines in their price negotiations with processors. Other factors are also considered such as production and stocks locally, and in the U.S. and other provinces, as well as prices of competing commodities. So prices can be set above or below the COP estimate. Negotiations can take place on a weekly basis in most provinces, or at least the framework exists for negotiations to be requested by any party desiring a change, on a weekly basis. Negotiations are done differently in different provinces, with some having final offer arbitration when agreement cannot be reached.

As with the egg market, operations of the Boards were largely horizontal and unilateral in their early years. Boards made decisions and processors either accepted them, lobbied to change them, or challenged them in the courts or to supervisory boards. In more recent years, an edge of verticality moved into the operations, as processor, retailer and consumer representatives were appointed to the national board and, perhaps more importantly, to the committee that set the level of global quota.

The major organization representing processors is the *Canadian Egg and Poultry Processors' Council* (CEPPC). Further processors are represented by the *Further Processors Association of Canada* (FPAC). Further processors are in a vulnerable position because they rely on primary processors, who are usually also involved in further processing, for their raw material. Since their suppliers are also competitors, and the competitors have a say in the industry's aggregate output level, further processors have had concerns about the way output decisions are made.

Cracks in the Structure

Since chicken has a market with strong demand, there has been constant growth in national quota and constant conflict over who gets it. The national agency has tended to allocate quota on the basis of historic production patterns. Provinces with high densities of human population, including Ontario, B.C. and Quebec, have argued that it should be based on demand.

Having quota is valuable, both because it gives the holder the opportunity to make some of the highest profits in agriculture, and because it is a source of wealth. Hence there is no obvious win-win solution to the conflict. This led first to B.C. leaving the national agency, then to Ontario and, finally, Quebec producing over their shares of national allocation.

B.C. has come back into the national program and there is a cease fire in the hostilities among the other provinces at present. These developments will be more fully addressed in our update report.

Pricing Performance

As with eggs, we present recent price comparisons at the farm and wholesale levels for Canada and the U.S. These prices are for whole chickens, which in reality are seldom traded any more because trade tends to be in cuts. There may be more representative prices at the wholesale level, but they are not readily available in a form that will allow a margin to be calculated. Also, it should be pointed out that, with widespread contract production and, therefore, widespread use of transfer pricing in the U.S., the "farm price" data are questionable. U.S.D.A. farm prices are "constructed" - ie. they are estimates of what farm prices "should be" based on actual wholesale prices. However, we feel they are suitably representative to be used as we do here.

Furthermore, we have included a labour cost component in the sources of contribution to wholesale prices which is calculated from Statistics Canada and U.S. Commerce data. It is a rough estimate of the cost of labour per kg. of chicken processed.

The data on farm and wholesale prices and price spreads are presented in figures 2.6 - 2.8. The following observations can be made.

1. Farm prices are more stable in Canada than the U.S. Stability is less different at the wholesale level.

2. Prices are considerably higher at both the farm and wholesale levels in Canada. (Per capita production in Canada is roughly two thirds of U.S. per capita production).

3. The wholesale to farm price spread (margin) is higher in Canada. Thus wholesale prices are higher in Canada because of higher farm prices and because of higher processor margins.[1]

It is interesting to investigate the contribution of farm prices, labour costs and other

[1]It should be noted that in some provinces and in some periods of time, the reported farm price understated what farmers actually received. This is due to so-called "premiums" that were paid over the agreed prices set by marketing boards on some occasions. When they occurred, this means that farm prices were higher and processor margins were lower than is indicated in the figures.

processor charges to the wholesale prices of each country. These are presented in Figures 2.9 and 2.10. Note that the labour component is part of the wholesale margin. The remainder goes to pay other costs and profits.

Examination of the two figures leads to the following observations.

1. Labour costs are higher in Canada. This is likely due to higher wage rates and/or to the fact that labour productivity is low because of smaller, less mechanized plants.

2. Margins have made up a declining proportion of the wholesale price in the U.S. and a slightly increasing proportion in Canada. This implies a relatively competitive processing industry in the U.S. that is reducing its costs and sharing cost reductions with consumers and/or producers.

3. Margins are more stable on a percentage basis in Canada. As with eggs, this implies that pricing tends to be done on a percentage markup basis.

Restrictions on the supply of broilers in Canada that resulted in production being one third lower than in the U.S. on a per capita basis by 1993 may have had several consequences. Obviously, it has allowed producers to keep their farm prices well above price levels in the U.S. In addition, it has likely discouraged processors from investing in plant and equipment that could have made them cost competitive with the U.S. Furthermore, the combination of domestic and import restrictions appears to have isolated processors and retailers from market pressures to the extent that their pricing behaviour can be done on nearly a constant percentage markup basis.

Figure 2.6: Comparison of Chicken Farm Price in Canada and the U.S.: 1989 - 1993

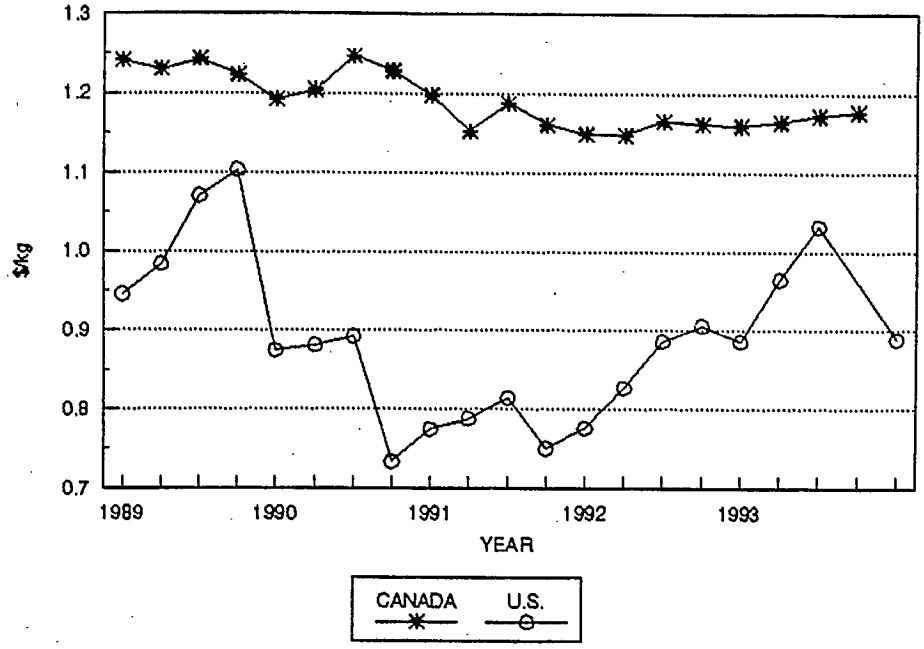


Figure 2.7: Comparison of Chicken Wholesale Price in Canada and the U.S.: 1989 - 1993

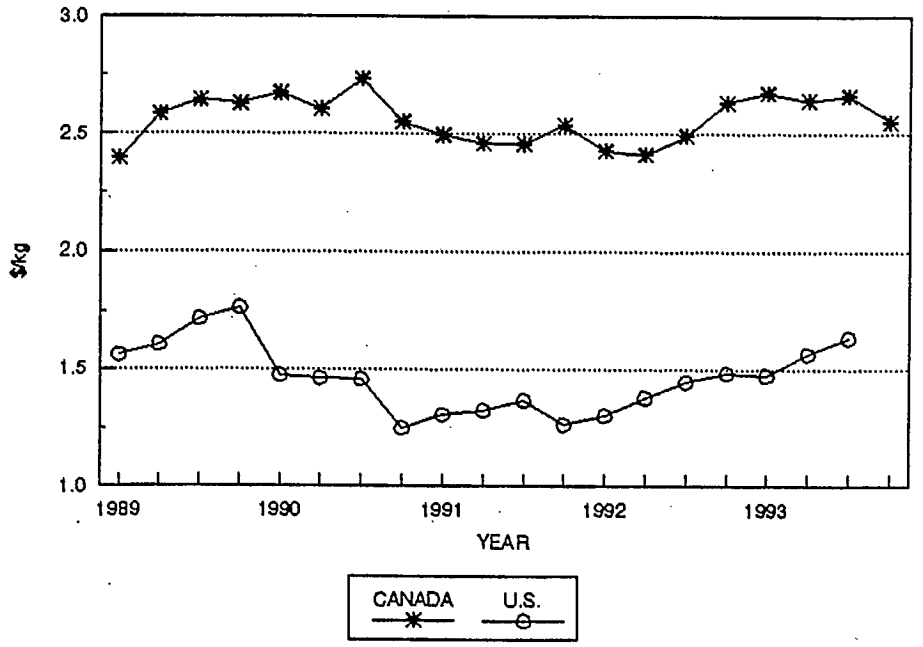


Figure 2.8: **Comparison of the Spread between Wholesale and Farm Prices of Chicken in Canada and the U.S.: 1989 - 1993**

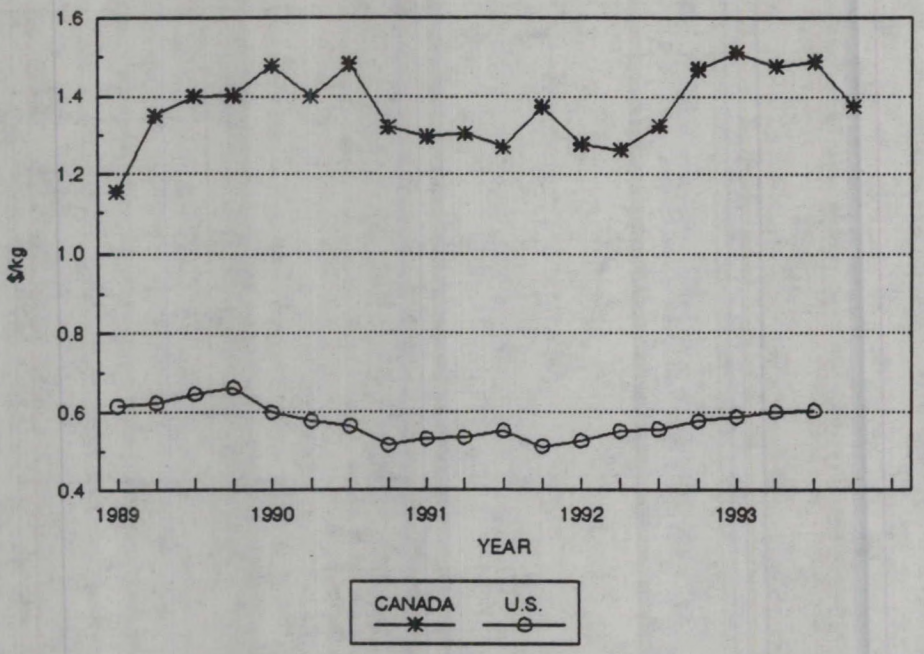


Figure 2.9: **Contribution of Farm Price, Labour and Other Costs to Chicken Wholesale Price in Canada: 1980 - 1991**

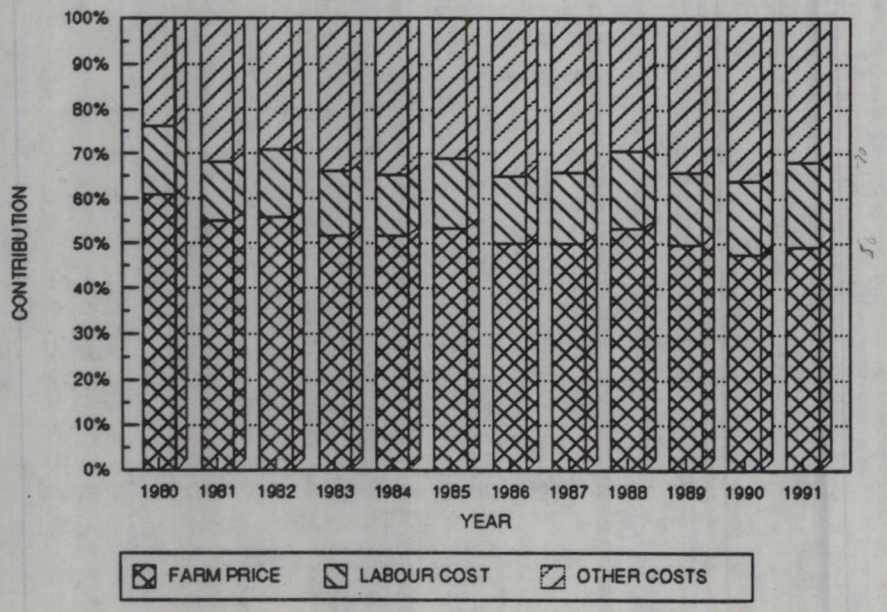
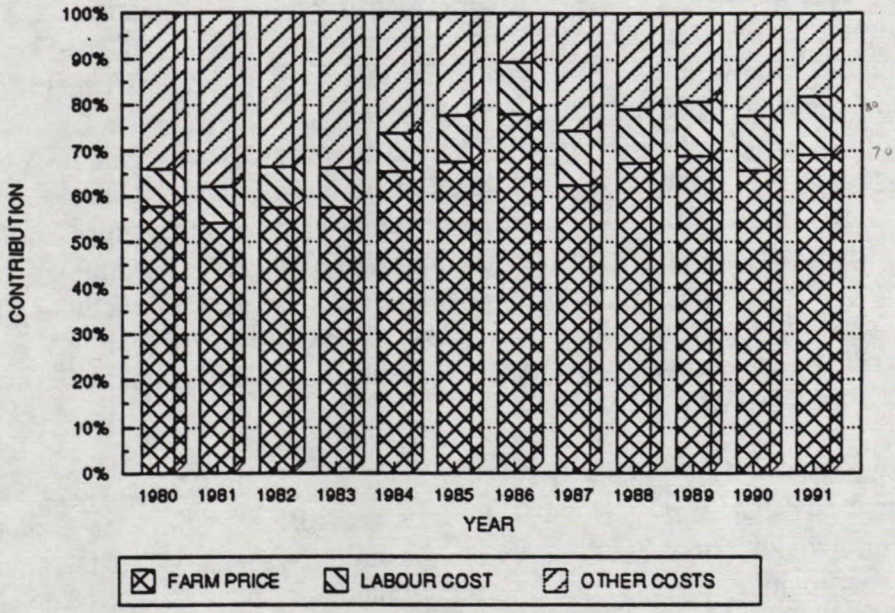


Figure 2.10: Contribution of Farm Price, Labour and Other Costs to Chicken Wholesale Price in the U.S.: 1980 - 1991



Effects of Trade Agreements

The situation for the chicken industry is similar to that explained for the egg industry above. Canada's initial tariffs will be over 200% for chicken products. A glance at Figures 2.6 and 2.7 reveals that differences in prices with the U.S. have rarely exceeded 100%. Hence if the Canadian position in the dispute with the U.S. is honoured, it is not likely that the functioning of the Canadian marketing boards will be threatened.

2.1.3 The Turkey Industry

The Canadian Turkey Marketing Agency (CTMA) emerged in 1973 following several years of concern on the part of producers that increased vertical and horizontal integration in the processing industry would reduce their bargaining power. The purpose of the national supply management system is to ensure that Canadian production is in line with domestic requirements and to provide producers with a fair price for their production.

Responsibilities of the provincial boards include the regulation of production and the marketing of turkey in each province, the negotiation of producer price, the collection of levies for operating expenses, the gathering of information, and the promotion of turkey products within the province.

The CTMA has developed a cost of production (COP) formula that is used by the provincial boards in their price negotiations. This formula includes all on-farm costs such as feed, live haul where applicable, poults, repair and maintenance, labour, financing, other variable costs, energy, administration, property taxes, depreciation, and levies. The COP formula indicates what a reasonable return from production should be. To ensure its accuracy, the formula is reviewed every two years. In July 1989, the CTMA modified the COP formula to include a new method of calculating fixed costs. In 1992, the CTMA modified the COP formula so as to reflect expenditures incurred by an efficient segment of the industry, instead of the average cost of the industry. This is simply a process whereby the 10% highest cost producers are removed from the sample. Another change is that processors and representatives from the Consumer's Association are now included on the COP Committee. In September 1993, producers across the country were surveyed to determine new productivity coefficients (eg. days on feed, mortality rates, etc) for the industry. The CTMA will then apply these coefficients to the 1991 COP survey results. These new productivity coefficients are expected to be reflected in the COP estimates by April 1994.

The CTMA determines a COP value each week. This value is passed on to the provincial boards, except Quebec which uses an arbitration plan, so that it can be used as a guide in price negotiations between processors and producers. Other factors considered in price negotiations include market supply and demand, storage stocks and price of competing commodities. In recent years, more weight has been placed on market conditions in price deliberations than on the COP value. These negotiations are held on a regular basis, approximately monthly.

As with chicken, the relevant processor group with which the CTMA works is the CEPPC. The two organizations have recently agreed to a Memorandum of Understanding that they will work together to move the industry toward international competitiveness. Among the supply managed commodities, the turkey organization has been the most progressive in developing contract pricing.

Some Aspects of Performance

Despite their roots in attempting to stop vertical and horizontal integration, the turkey industry is highly concentrated. It is said that six firms control about 80% of the market in Ontario. It is definitely true that two have more than 50%. When firms are large, they are integrated, sometimes from hatching eggs through processing. They own quota and contract with farmers for grow out, ie. for finishing birds to market weight. In this industry, producers and processors are often the same people.

As with the other commodities, pricing patterns in the U.S. and Canada are shown in Figures 2.11-2.13. The following observations can be made.

1. Farm prices are more stable in Canada.

2. Both farm and wholesale prices are higher in Canada than in the U.S. The gap seems to have narrowed during the past two years.

3. Canadian wholesale margins are considerably higher in Canada.

The contributions of farm prices, and processors' margins, including the estimated cost of labour in processing is shown in Figures 2.13 and 2.14. Two factors stand out. First, as with chicken, labour cost is far higher in Canada. Second, while the absolute level of processor margin is higher in Canada, in percentage terms it is similar in the two countries and slightly more volatile in Canada. It would appear that there is evidence of percentage markup behaviour in both countries. The U.S. turkey industry can probably do this more easily than the other two because the turkey industry is substantially more concentrated, and because turkey is still a seasonal item.

Effects of Trade Agreements

The general issues for turkey are the same as were described for eggs and chicken. Canada's GATT tariffs will begin at 182% and decline by 15% during the six year phase-in period. The data in Figures 2.13 - 2.15 show that price differences with the U.S., have not approached even 100% since 1988. Hence if the Canadian position is accepted, tariffication should not be a threat to the continued operation of the supply management program.

Figure 2.11 Comparison of Turkey Farm Price in Canada and the U.S.: 1989 - 1993

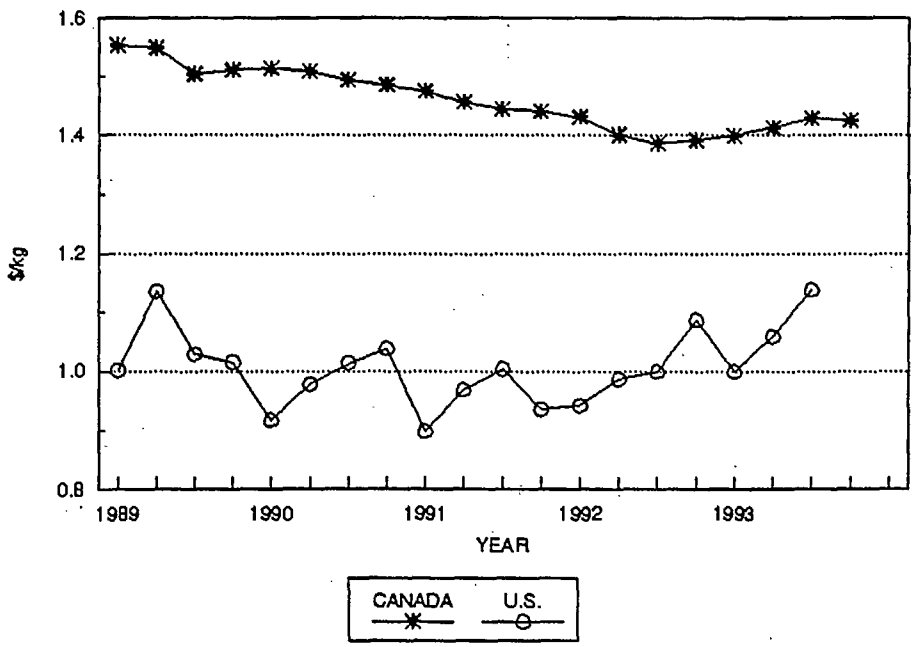


Figure 2.12: Comparison of Turkey Wholesale Price in Canada and the U.S.: 1989 - 1993

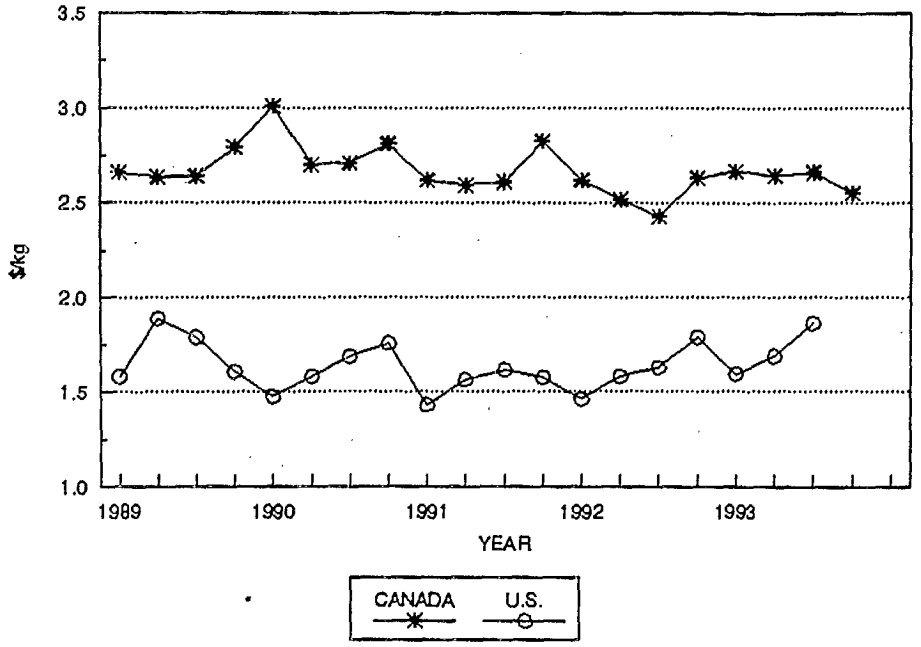
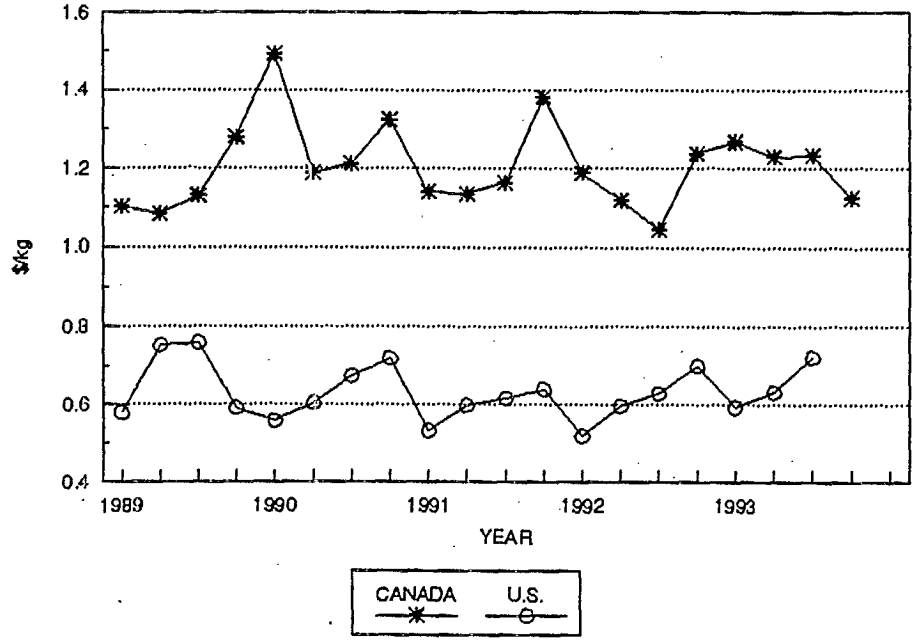


Figure 2.13: Comparison of the Spread between Wholesale and Farm Prices of Turkey in Canada and the U.S.: 1989 - 1993



2.1.4. Some Structural Issues

A fundamental issue, especially for chicken and turkey, regarding the final outcome of the GATT/NAFTA agreements is whether Canadian primary producers, primary processors, and secondary processors can display a high degree of competitiveness. The question is especially about cost competitiveness relative to the U.S.

At the extreme, this question has several dimensions. First, one could ask, if all border measures disappeared over night, would the industry in Canada be able to compete immediately? Following this is the question, if not, what adjustments are needed over time to become competitive? The final question is, can we be competitive under any circumstances?

The answer to the first question is likely no, at least for primary producers and processors. The costs that are built into the system, especially those associated with quota and collection, would make it very difficult for poultry farmers and primary processors to compete in a world that suddenly had open borders. There is a need for all the assets in the system, including quota, to be revalued, either through write offs or through sale.

Figure 2.14: Contribution of Farm Price, Labour and Other Costs to Turkey Wholesale Price in the U.S.: 1980 - 1991

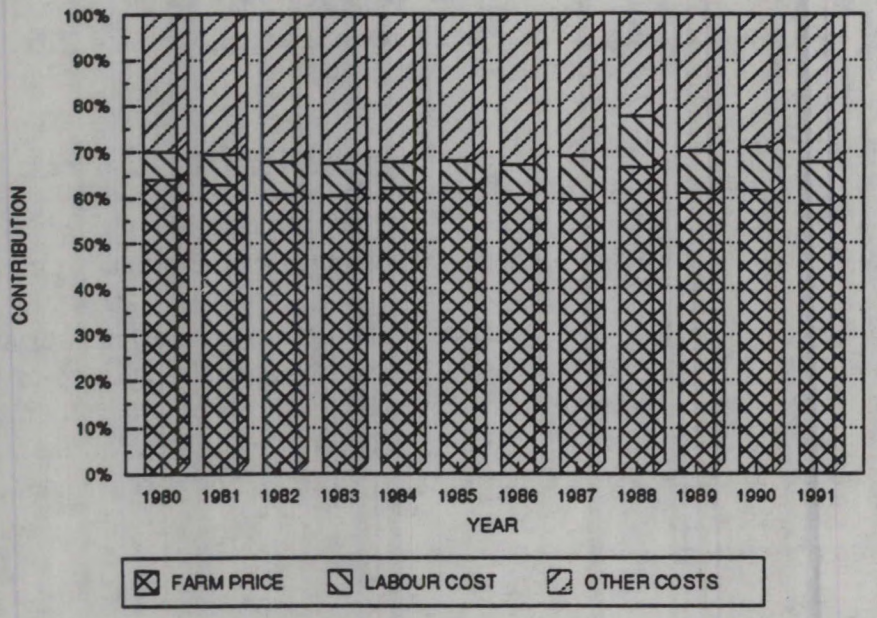
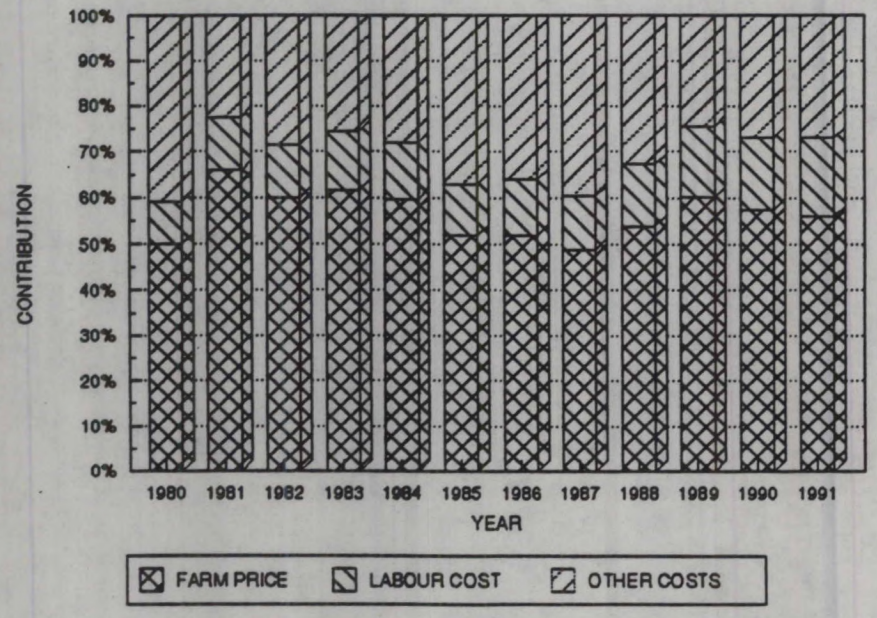


Figure 2.15: Contribution of Farm Price, Labour and Other Costs to Turkey Wholesale Price in Canada: 1980 - 1991



The answers to the other two questions are more complex. It is our perception, based largely on anecdotal information, that Canada could compete after a period of adjustment that allowed for a movement toward a more cost effective structure. We outline the observations and logic for this statement below. Before beginning, however, our perception is that several Canadian further processors would have no trouble competing. Secondary processing is largely a high cost operation whose success rests on creativity, quality control, and good marketing. The Canadian companies involved in this part of the market, such as *Elmira Poultry* and *Janes Fine Foods*, appear to have the requisite. Their only major limitation has been the cost of raw material. Hence, we will focus on primary producers and primary processors.

A second caveat before beginning the more general discussion is that we perceive the turkey industry to have a higher degree of competitiveness than the chicken industry. This results in part from confidential information we have available. It also is based on the work done by the Centre in 1993 for Agriculture Canada on business linkages in the poultry industries. What Canada does in the turkey industry is already much more closely attuned to what is going on in the United States. The degree of integration is high. Costs are relatively well controlled. The turkey industry has long had a superior customer orientation. In fact, some processors are exporting regularly to the United States. For the table egg industry, costs of "processing" are relatively small. They consist largely of candling and washing, and represent much less of a factor in getting product to consumers than do farm production costs. Furthermore, as we have already shown, wholesale margins in the egg industry are comparable with the U.S. Hence, most of the discussion to follow is most relevant to the chicken industry.

We begin by addressing primary producers. Their costs are higher today than are those of primary chicken producers in the United States. Part of the reason for this is that Canada has a higher percentage of small operations, including what can only be regarded as part-time operations. *Grow out* operations of ten or twenty thousand birds per cycle, with mechanized feeding, can only be regarded as part-time. These may be relatively high cost at the margin. A second reason Canada's industry is high cost is that *grow out* facilities are scattered, making the cost of collection and scheduling of birds into plants quite high. The third, and most important reason for Canada's cost being higher is, of course, quota cost.

However, from a structural perspective, these costs (except quota costs) need not preclude Canada from being cost competitive. Most broiler operations in the United States are composed of a collection of forty to sixty thousand birds per cycle operations. Hence, economies of size are not associated with the size of operation as much as with management, feed costs, and collection and delivery. By having central management of a number of grow out facilities, the cost of overhead is considerably lower, requiring fewer incomes to be paid from the revenues of a grow out operation. Secondly, feed costs can be reduced by either having centralized on-farm feed mixing or by having substantial bargaining power with independent feed millers. Finally, the issue of collection and scheduling cost was addressed above.

The point is that there is not likely a major adjustment required among growers to establish a cost competitive structure in Canada. Rather, what is required is a change in the

nature of vertical coordination and control in order to achieve many of the economies that are associated with size in the United States.

Beyond the issue of structure, there are three others that affect costs in Canada relative to the United States. The first is the cost of feed. Most of the U.S. industry has sprung up in the south eastern part of the United States. The south east is feed grain deficit and imports its feed grains from the corn belt. In fact, the eastern seaboard last year imported corn from Ontario. Thus the south eastern part of the United States is a high cost feed area. Conversely, during most of the past decade, Eastern Canada has been a low cost feed area because it is a surplus producing area.[2] Western Canada has always been a low cost feed area. During most of the past decade, the price of corn in Southern Ontario was roughly the same as in Iowa. There have been some exceptions, and these lead to uncertainty for livestock producers. However, in general, all of Canada has a feed cost advantage over the south eastern part of the United States.

The second issue is climate. Many in Canada argue that Canada's climate increases Canada's relative building costs. However, any cost estimates we have seen suggest that building costs are not a major portion of total cost when they are extended over the life of a building. Moreover, the Southeastern U.S. has extreme heat and humidity. There are times when the effects on poultry mortality are so great that they make the international news. This means that, as a result of heat and humidity, the south east has higher mortality rates than Canada and, one would expect, higher stress rates. Therefore, one would expect Canada to have an advantage in terms of feed conversion.

The third element is the environment. Canada, especially Eastern Canada, is rapidly running into environmental problems associated with the expansion of animal agriculture, mainly due to manure. Canada's more stringent regulations are regarded as a constraint to competitiveness, relative to regulations in the south east. Currently, we would concur that Canada has a disadvantage in this area. However, over the longer term we expect that the south east will inevitably develop similar or more stringent regulations.

Two additional relative cost factors should be apparent. First, with the exception of the so-called DELMARVA Peninsula (Delaware, Maryland and Virginia), Canadian production operations are closer to most U.S. markets than are U.S. production operations. Therefore, at

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[2] There is often discussion about the effect of the Western Grain Transportation subsidy on feed costs. In our view, WGTA has little effect on Eastern Canada because the East grows corn, competes with corn on a North American market, and is usually a surplus producing area. The effect of the West on the Eastern feed market is essentially through the supply of low quality wheat when, as in some recent years, there are large amounts of it in the West that cannot be used for human consumption. It then moves into feed consumption and affects the local basis for corn. In the West, WGTA probably increases grain prices to livestock producers because the major beneficiary of the subsidy is the export market. This would certainly be the case if there was no restriction on the supply of transportation services. The fact that there is means that the magnitude of the price effect of WGTA is likely indeterminate, and that it adds considerable uncertainty to the market.

the very worst, Canada should not have a transportation cost disadvantage. Second, the exchange rate during recent times has been extremely favourable to any industry that is cost competitive and export oriented.

Putting all of this together, we believe that if a concerted effort was made to move the Canadian industry toward an open market with the United States over a protracted period, with full knowledge on the part of the Canadian industry that this was taking place, then the adjustments could occur that would make Canada fully cost competitive in the U.S. market. In addition, there are potential benefits in the Canadian system that could help differentiate the product. One is a meat inspection system that, apparently, results in fewer problems with transmittable diseases. Second, this is likely enhanced by the cooler climate in Canada which helps to reduce infections in the first place. These factors could be used as a source of differentiation. This differentiation could be built upon by the type of process used in France for the so called *Label Rouge* quality control system that has been developed there.[3]

Now we turn to primary processing. While we have very little direct evidence, our perception is that the primary processing part of the industry is the least cost competitive. This starts with the issue mentioned above, ie. that collection and scheduling costs are very high. There appears to be, with a few exceptions, very little coordination of delivery into plants and very little control over sizes of birds. This makes automation extremely difficult. The major exception is for *KFC* product. Our own observation is that when KFC product is coming in, it comes in at a consistent size and nearly all of the operations from slaughter to packaging are automated. The remainder of the processing activity has a great deal of inconsistency in size which makes automation very difficult. One merely needs to walk through a processing plant to surmise the effect this has on the plant's costs.

In addition, we perceive that poultry processing plants in Canada are far smaller than their U.S. counterparts. Table 2.1 contains some inferences about size of plant based on Statistics Canada and U.S. Commerce Department data for the 1980s. These data represent an average plant in the two countries for the average of the decade from 1981 through 1991.

Whether one views size from the perspective of sales per plant or production workers per plant, U.S. plants were at least twice as large as Canadian plants. Moreover, at least partially as a result of the differences in size, the number of administrative/management workers was considerably higher in Canada than in the United States. The ratio suggests that one administrative/management worker supported about 6.2 production workers in Canada and about 8.3 production workers in the United States. These data suggest that overhead costs in Canada per unit of output were substantially higher in Canada than in the United States.

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[3] Alternative Business Linkages: The Case of the Poultry Industry. Working paper by the George Morris Centre, Guelph, Ontario, June, 1993.

Table 2.1: Characteristics of Poultry Processing Plants in Canada and the U.S. 1980-1991 (All Monetary Units are Canadian Dollars)

	Canada	U.S.
Number of Plants	98	494
Production Workers/Plant	96.2	240.3
Admin. and Mgt Workers/Plant	15.6	29.1
Sales/Plant ($Mil.)	20.1	40.1
Value Added/Plant ($Mil.)	4.7	10.4

Source: Developed from George Morris Centre, Profile of Canada's Food Processing Industry, Guelph, May 1993.

All of this would suggest plants have higher costs in Canada than in the United States, even if wage rates were the same. In fact, wage rates were about the same during the 1980s but were increasing in Canada relative to the United States toward the end of the 80s. Finally, in addition to the implicit higher costs, the final entry in the table, ie. value added per plant, suggests that plants in Canada were relatively less effective in making contributions toward profits than their American counterparts.

While we feel some confidence in forecasting that over a five to ten year phase in period, primary producers in Canada could become cost competitive, it is not so easy to be confident at the primary processing level. It is nice to suggest that processors could make whatever adjustments are required in order to be compete on a North American basis. However, to do so would be to compete with the likes of Tyson and Conagra. We have no evidence to either suggest or deny that current Canadian management is in the same category as those two companies. So we cannot forecast. On the other hand, it may be that a movement to a North American market would invite the Tysons and Conagras of the world to invest in Canada.

2.1.5. The Analytic Model for the Poultry Industries

The foregoing describes, for all three industries, a disequilibrium market situation as shown in Figure 2.16. The lower portion of the diagram refers to the primary producer level of the market. We show a domestic demand function D. The segment called export floor (EF) represents Canadian prices at U. S. price minus transfer cost. If Canadian prices ever fell this low, we would export to the U.S. The floor is drawn flat on the assumption that Canadian exports would have no effect on U.S. prices.

We have also drawn in an import ceiling (IC). This begins on the domestic demand function (D) at a price equal to the U.S. plus transfer cost. If the market were able to arbitrage,

at this point, imports would enter. Again we have drawn the ceiling flat on the assumption that the Canadian market will not affect U.S. prices.

Of course the market cannot arbitrage because of import quotas. Moreover, the domestic supply management program is such that it is impossible to know where on the diagram the true domestic supply function is located. Hence in an analytical sense, the quantity supplied is arbitrary. We have represented it as Q1, the aggregate supply in the market. For simplicity, this includes both domestic production and the amount available through import quotas.

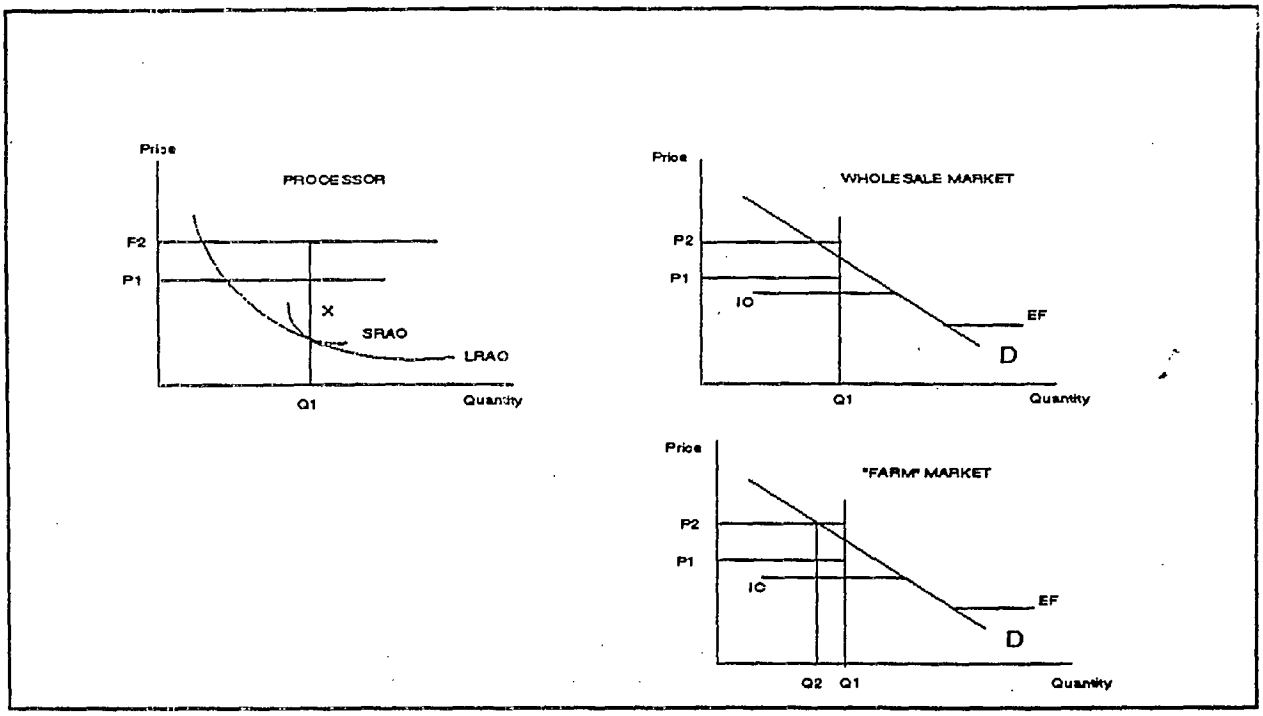
One aspect of the disequilibrium nature of the market is shown by the fact that, at the farm level, we have two alternative prices, P1 and P2. Since price is not related to demand, but rather to cost of production, there is no guarantee that price lies on a demand function.

In the case of the egg industry, we saw that it rarely does. The pricing procedure yields a price like P2 which is higher than the price required to clear the market of the quantity offered. In the case of the egg industry, there is a formal surplus removal program that removes the quantity Q1 minus Q2 from the table market and sells it at a lower price on the breaker market.

It is also possible that this pricing procedure could yield a price below the demand function such as P1. Apparently this is not happening in the case of the egg industry. However, previous work by Elahi and Farrow suggests that it does happen in the case of turkeys and chickens. There seems to be evidence to suggest that, because processors have access to a limited supply of product, they buy whatever is offered at whatever price is determined. They may complain and protest, but they compete with each other for market share. This is particularly so when processors are tied to growers through contractual relationships.

To get at the adjustment mechanism in the chicken and turkey industries, we need to go to the upper right diagram. This is simply, on the demand side, the same diagram as is shown below, except it represents wholesale level demand. Again, we show two prices P1 and P2. We have done so on the ground that at least the chicken industry appears to follow a fairly standard markup policy. As a result of disequilibrium at the farm level market, this can result in disequilibrium at the wholesale level. If farm price is too high (at P2) and the markup has the effect of causing the wholesale price to increase to P2, then too much is supplied for the price. Our hypothesis and observation from the previous work is that, when this happens, stocks of frozen broilers and turkeys build up. Conversely, if the price level at the farm is below the demand relationship and is translated through the markup procedure to a price below the demand at the wholesale level, then too little is offered for the price. The adjustment mechanism is that frozen broilers and turkeys are taken out of storage and put into the market. We form this hypothesis because the previous analyses have shown that the pattern of stock holding for these two commodities in Canada is far more volatile than in the United States.

Figure 2.16: Price Determination at Farm and Wholesale Levels under Supply Management



To complete the model, the upper left hand segment refers to a specific processor. The description of the turkey and broiler industry indicated that there are substantially higher unit costs of labour and other components of the processor margin. There are potentially several reasons that this could occur. They are as follows:

1. Wage rates in processing could be higher in Canada. In fact, our previous research indicates that they are for the poultry industry. Moreover, wage rates in the poultry (and dairy) processing industry are relatively the highest of any in the agri-food sector.

2. There may be insufficient scale. If as a result of restricted output and other regulatory activities, processing firms are not able to adjust to the optimum size, then labour productivity in the Canadian plants may be lower than in U.S. plants.

3. There may be an incorrect labour/capital ratio. This may be associated with the scale argument above and/or may be a separate argument depending upon the nature of capital available. However, if less advanced technology, less automation or other advanced capital is for some reason not used in Canadian plants as a result of restricted supply of raw materials, then again the productivity of labour will appear to be lower in Canada. It is entirely possible that either or both of the two forgoing arguments could occur in Canada because the restrictions on supply and higher prices preclude a serious involvement in export markets. Because of the size of the Canadian market, scale or automation equipment may not be justifiable. The size

of the market is too small. To justify these investments often requires access to an export market.

4. Organizational Slack. If firms have access to economic rents, they sometimes do not optimize their costs. They build in unnecessary costs.

5. The final alternative is that the nature of supply restriction, import restriction and price behaviour provides economic rents to processors.

Any or all of the five alternatives can be fitted into the processor component of Figure 2.16. Q1 is predetermined by the regulatory authority. If this is at a level of output that is lower than the level that minimizes long run average costs and/or if the wrong labour/capital ratio is used, then a firm may be operating at SRAC on the graph, ie. the attendant short run average cost curve. If there is organizational slack or if wage rates are high, then a firm may be above SRAC at some point such as X. Finally, if prices such as P2 and P1 are reflected from the wholesale market to the individual processor and they are well above the cost structure, then economic rents occur.

This simple model has characteristics similar to those observed in the poultry markets. It can be used as a starting point for thinking about the effects of changes on the market place. One change is the level of tariffs under a program of tariffication. In viewing either the "farm" or "wholesale" markets, a tariff can be added rather quickly. All the tariff does is raise the location of the import ceiling. If a tariff were relatively low, then the import ceiling would increase marginally, and pricing would not be able to occur at the non-equilibrium level that we discussed before. On the other hand, extremely high tariffs would move the import ceiling to a level above P1 or P2. In this case, a tariff would not necessarily have an effect on the poultry markets.

2.2 The Dairy Industries

The dairy industries consist of fluid and industrial milk. It is easiest to think about fluid as the milk you drink and industrial as the milk you eat: ie. cheese, ice cream, butter, etc. Supply management in dairy started during the 1960's under provincial enabling legislation for fluid milk and a federal act that established the Canadian Dairy Commission as a Crown Corporation in 1966. Thus the system is set up with the CDC having responsibility for the industrial milk market and provincial milk marketing boards having responsibility for the fluid market. In addition, industrial milk producers benefit from a "consumer" subsidy paid by the federal government to farmers. Of course, there are also import quotas for milk and dairy products. These are negotiated and administered by the Department of External Affairs.

A summary of the major events that led to the development of the current system and its major components is presented below.

2.2.1 Fluid Milk Industry

Prior to 1933, the prices paid to producers for milk supplied for fluid consumption generally were negotiated between producers and distributors. However, during the Depression, prices paid for milk used in manufacturing declined and farmers who supplied milk for this purpose tried to secure a higher price by offering milk to the fluid trade at prices lower than those specified in the voluntarily negotiated agreements between the regular fluid producers and distributors. The result was that fluid milk prices fell drastically and the voluntary agreements on price became unenforceable. In these circumstances, the producers appealed to their provincial governments to set prices to producers and consumers, to control the number of distributors, and to exercise general supervisory powers.

Over time this led to the development of marketing boards for fluid milk in each province. The boards establish prices to first buyers. They use production costs in establishing prices. The production cost base is one that has been developed by the CDC, and is discussed in the next subsection. Increasingly during the past few years, production costs have been used mainly as a reference: the dairy industry has not taken full advantage of its monopoly powers in pricing. Our perception is that they do not believe the market would allow them to do so.

The provincial boards also regulate most aspects of the day to day operations of the industry. Importantly, these aspects include allocation of milk to plants (the provincial boards administer plant supply quota on behalf of the CDC for industrial milk, as well as for fluid). They also administer and regulate transportation of milk from farms to the plants.

2.2.2 Industrial Milk Industry

As indicated above, the CDC was formed as a Crown Corporation in 1966 to be responsible for the marketing of industrial milk nationally. This followed nearly two decades of attempting to use price supports and other policy instruments to bring stability to the industry.

The CDC administers market share quota (MSQ) in conjunction with the provincial marketing boards to manage the supply of industrial milk. It also establishes the price of industrial milk, based on production costs. The cost of producing milk is calculated from data collected by surveys of approximately 350 farms in Ontario, Quebec, New Brunswick, and Manitoba. Thirty percent of the sample, made up of producers with the highest per-hectolitre costs, is eliminated for the purposes of calculating the target price. The provincial sample is used by the provincial boards.

The COP is used as an input into the "returns adjustment formula" which is then used to set prices. The formula incorporates changes in consumer prices, input costs and a judgement factor to determine the "target return" for industrial milk. Given this desired rate of return, the government uses the formula as the first of two tools to attain the desired price.

The second tool is the offer to purchase program. After using the returns adjustment formula to estimate support prices for butter and skim milk powder, the CDC then offers to purchase surplus products at that level, effectively establishing minimum market prices. Surplus

products are exported at "world prices" and the losses are pooled and shared among industrial milk producers, in a manner similar to the egg industry as described above.

Until recently, industrial milk prices included premiums and discounts that were based solely on butterfat. However, in a world that is demanding less fat, this has caused problems in the system that will be described below. As a result, the industry has moved to multiple component pricing, which includes factors for variables such as solids that are not fat.

A final important aspect of the pricing system for dairy is that processors face a number of different prices for milk depending upon its end use. It needs to be understood that there are not measured differences in the characteristics of the milk that goes to different end uses, the distinction is only in the end use. Clearly, this follows from the fact that there are separate prices for industrial and fluid milk. However, within industrial milk, there are differences for cheese, butter, etc. These differences have been a matter of considerable evolution in the dairy industry and will likely continue to be in the future, as is explained in the next two subsections.

2.2.3 Domestic Issues Facing the Dairy Industries

Even before the potential effects of trade agreements, the dairy industry has been facing several major adjustment problems. Demand for dairy products has been static or declining for some end uses (fluid, butter, skim milk powder) and growing for others. Overall, it appears to have been quite static, at least with the rather rigid pricing and allocation structure that existed in the past. At the same time, dairy farmers and dairy cows have become much more efficient. The result has been many fewer cows and farms producing a fairly constant supply of milk. This has meant that considerable quota, for both fluid and industrial milk, has been purchased by those remaining in business from those who left.

One major problem is the emphasis that has been placed on butter fat in pricing formulas. Prices rewarded fat. Fat was used for butter, among other end uses. Demand for butter is declining. This led to surpluses of butter that had to be exported with self-imposed farmer subsidies. In order to reduce the surpluses, the Canadian Dairy Commission reduced the amount of MSQ each farmer had available. Reducing MSQ increases costs to dairy farmers: for example, if a barn was set up for fifty cows and MSQ is cut by ten percent, then the farm's per unit overhead costs increase because the number of cows had to be reduced. Farmers then increased their demand for MSQ and for fluid milk quota, causing the price of quota to increase. This worked into a quite vicious circle. Many people in the industry talk about having to buy their quota several times as quota cuts cause them to buy used quota from other farmers in order to replace what was eroded from their original base.

In 1992/93 the Dairy Farmers of Canada (DFC) and the National Dairy Council (NDC) appointed a joint committee to find solutions to this and other problems. From the committee's deliberations came a set of rather substantial recommendations that were introduced in early 1993. Some of the recommendations were and are being implemented, such as more reliance on multiple component pricing methods for the calculation of individual farmers' payment, and

movement toward a single pool of milk in each province . The latter would end the distinction in end use between fluid and industrial milk, and would reduce the pressures of MSQ cuts on quota prices. However, there has been industry and, especially, provincial government resistance to many of the recommendations and, according to the DFC and NDC, there has been interference from the Federal Government's two processes. One was an attempt to develop a government led process on improving supply management by an Associate Deputy Minister of Agriculture in 1993. Industry resistance to this process was so great, it failed and the Associate Deputy Minister's position no longer exists. The second is the Van Clief Committee which has been at work since mid-1994. More will be said about this in the update report.

The problems of the pricing system were exacerbated by the Canada/U.S. Trade Agreement (CUSTA). With CUSTA, considerable border protection was lost for some industrial products. Chief among them was pizza (mozzarella) cheese, although others were also affected. Because cheese on pizza and some manufactured products fall under a different tariff category, imports of such products from the U.S. were not controlled by import quotas and the relatively high tariffs on them began to decline after CUSTA was negotiated. Since mozzarella is a major ingredient in pizza and other further processed products, and since industrial milk is considerably less expensive in the U.S., this put Canadian further processors at a considerable disadvantage.

Moreover, a number of multi-national corporations argued that they could be export competitive in several products, some of which included pizza cheese, if pizza cheese and/or industrial milk used in manufactured products were made available in Canada at competitive prices. Finally, in order to combat the decline in demand for butter and the high cost of exporting butter surpluses, the Canadian Dairy Commission was pressured to reduce prices for surplus butter if it was used by the domestic baking industry. As a result of these pressures, a number of forces have been at work to cause more and greater price differences for milk used in different end uses. The CDC has done this by giving price rebates on milk used in particular end uses to the processors. These rebates are reductions to the net prices paid to farmers.

As an interesting aside, reducing the price of butter used in bakery worked so well in part of 1993 that Canada actually had to import butter because too little MSQ had been allocated to service the entire demand.

A final problem stemming from CUSTA is the issue of ice cream and yogurt. Unlike other products, ice cream and yogurt were not protected by GATT Article 11.2.C1 import quotas. Rather, they were protected only by rather high tariffs. When CUSTA was signed, Canada moved these products from the tariff protected list to the quantitative restricted list because of the potential problems associated with domestic milk pricing if tariffs for these products went to zero under CUSTA. The U.S. objected and filed a dispute with GATT. The U.S. won, but GATT dispute decisions were not binding. Canada decided it would not abide by this decision at least until completion of the current round of GATT, at which time Canada would re-examine this decision. That brings us to the effects of GATT and NAFTA which are discussed in the next subsection.

Before going to that subsection, our recent experience is that problems of declining MSQ, some of the recent pricing decisions, and, in particular, a perceived lack of appropriate leadership on behalf of the Canadian industry by the marketing boards and the Dairy Farmers of Canada during the GATT negotiations has caused considerable unrest among many producers. There is a chasm among them that did not exist in the past.

2.2.4 Potential Effects of Recent Trade Agreements

The potential effects of GATT and NAFTA are similar for dairy as we explained above for poultry. The levels of tariff calculated by Canada are very high and provide considerably more protection than has been taken from import quotas. For example, industrial milk prices are about $60.00/hl in Canada and U.S. milk can likely be imported for about $50.00/hl. Thus a tariff of twenty percent would give an equal outcome. Canada's tariff will be two hundred and eighty percent.

If the tariffs are at these levels, this round of GATT will have little effect on the system. However, in the case of dairy, the conflict with the U.S. about ice cream and yogurt may have substantial consequences. There appears to be no legitimate argument that Canada's import quotas for ice cream and yogurt should be tariffied: since there were no quotas when CUSTA was signed, it is difficult to argue they were Article 11.2.C1. quotas. Moreover, GATT has already said they are not legitimate. Hence, there is a strong likelihood that, in a political decision, rather large initial tariffs for these products will be reduced to zero or close to zero rather rapidly. This will mean even further adjustments in domestic pricing for industrial milk used for these purposes. At some point, as more and more industrial milk is priced at U.S. competitive levels, it will be more and more difficult to contain the system.

A second issue regarding GATT is the producer fund used to subsidize exports of surplus products. It apparently will be subject to the expenditure cap on export subsidies. If this occurs, then more product will be forced back into the domestic market, MSQ will be reduced, or the industry will need to find ways to increase domestic demand, presumably by lowering prices.

The final part of the policy pantheon for dairy affected by GATT is the cap on domestic subsidies. They must be lowered to 80% of the base expenditure. This will not likely be a restraining factor in the case of Canada's dairy subsidies. With the continuing downtrend in the amount of MSQ, dairy subsidies are likely already below the cap and if not, will get there quickly.

2.2.5 Some Structural Issues

The same questions can be asked about the dairy industries as were asked about the poultry industries, if Canada were to operate with open borders. There is considerable evidence that Canada can compete. Farms are, on average, almost the same size as in the United States. The exceptions are hyper farms in Arizona and California. However, these farms do not appear

to be catching hold in the Northern states and, given the problem of shipping milk, it is not likely that the hyper farms will provide much direct competition to Canada. Moreover, with the exception of quota prices and the fact that Canada has a higher percentage of smaller farms, Canadian farmers are generally cost competitive with their U.S. counterparts. Moreover, there is little opportunity cost for the land on which much of Canada's dairy industry is located, which is essentially east of Toronto.

At the processing level, the same structural differences do not appear to exist as exist in the poultry industry. Tables 2.2 and 2.3 show average plants in Canada and the U.S. for fluid and industrial milk production during the 1980s. The tables show that Canadian plants were only a little smaller when measured on sales, slightly larger when measured on the number of production workers, and had slightly more administrative and management workers. Value added, like sales, was marginally smaller in Canada.

Table 2.2: Characteristics of Fluid Milk Plants in Canada and the U.S. 1980 - 91 (All Monetary Units are Canadian Dollars)

	Canada	U.S.
Number of Plants	159	964
Production Workers/Plant	39.3	37.3
Admin. and Mgt. Workers/Plant	44.4	38.1
Sales/Plant ($Mil.)	24.7	29.9
Value Added/Plant ($Mil.)	5.6	7.6

Source: Developed from George Morris Centre, Profile of Canada's Food Processing Industry, Guelph, May 1993.

Table 2.3: Characteristics of Industrial Milk Plants in Canada and the U.S. 1980 - 91 (All Monetary Units are Canadian Dollars)

	Canada	U.S.
Number of Plants	221	1,431
Production Workers/Plant	37.8	33.9
Admin. and Mgt. Workers/Plant	17.8	12.5
Sales/Plant ($Mil.)	21.5	23.4
Value Added/Plant ($Mil.)	5.0	5.8

Source: Developed from George Morris Centre, Profile of Canada's Food Processing Industry, Guelph, May 1993.

This confirms what a number of studies have suggested, which is that Canada's plants are close to being cost competitive. In addition to issues around cost, a number of Canadian companies have focussed substantially on becoming high quality international cheese makers. It is our observation that they face little competition in the United States. So it is quite possible that at least some Canadian cheese processors could compete on cost and on quality quite nicely against their U.S. competitors. This could be a particulary positive situation since GATT gives a substantial minimum access to the U.S. market, and assuming it is administered in a manner that makes it truly accessible.

2.2.6 Some Evidence on Performance

We have not been able to make direct comparisons for all dairy products. However, in Figures 2.17 to 2.19 we present evidence on relative pricing in the industrial milk aspect of the market. The figures contain quarterly farm prices for industrial milk, wholesale prices for butter and price spreads for butter in Canada and the U.S. The following inferences are drawn from the figures.

1. Canadian prices and wholesale to farm margins are higher and more stable.

2. Farm prices in both countries have trended upwards since 1991. Prior to that, U.S. prices trended downwards while Canadian prices remained stable.

3. Wholesale butter prices have been stable at about $6.0/kg in Canada but have trended downwards in the U.S.

4. Canadian wholesale to farm margins were more stable prior to 1992. However, the trend is downwards in both countries.

2.2.7 The Analytic Model for the Dairy Industries

The analytic model for the dairy industries is very similar to the one for the poultry industries. The complicating factor for the dairy industries is the existence of two or more final product markets and the fact that surplus products from industrial milk is sold into the world market with farmer financed subsidies. At this point there seems to be little to gain by extending the diagrams presented in Section 2.1.5 for the poultry industries.

Figure 2.17: Comparison of Industrial Milk Farm Price in Canada and the U.S.: 1989 - 1993

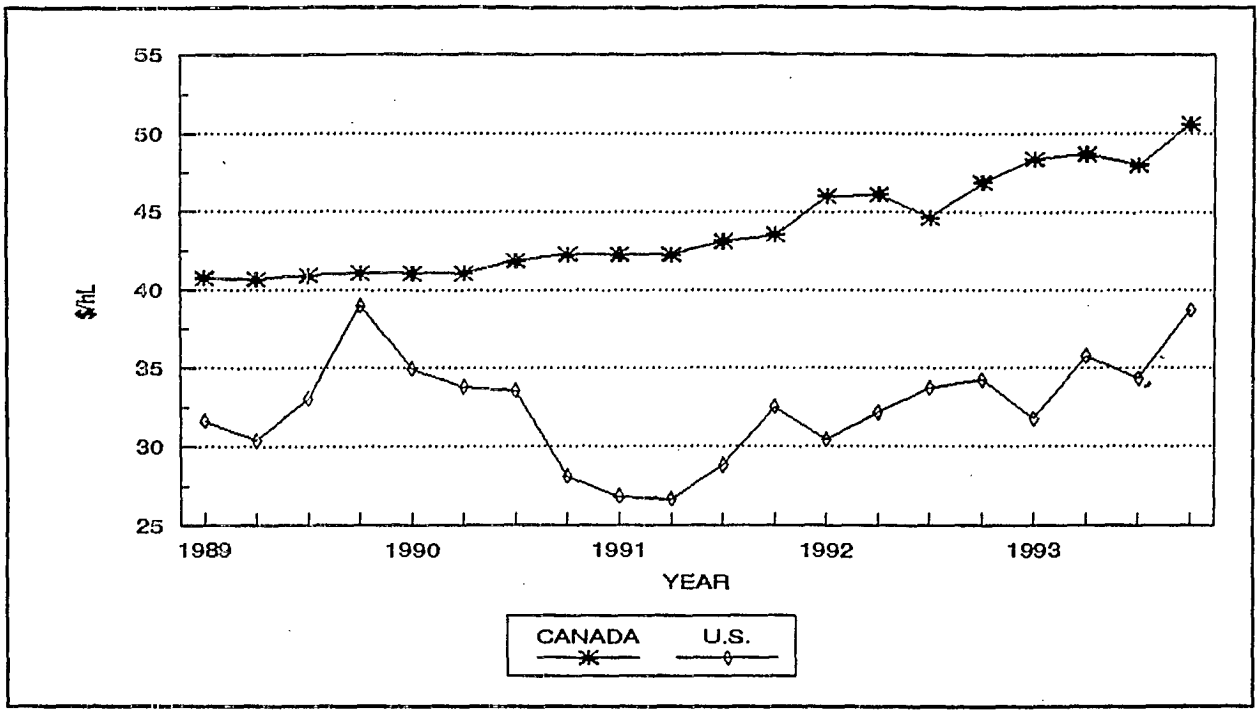


Figure 2.18: Comparison of Butter Wholesale Price in Canada and the U.S.: 1989 - 1993

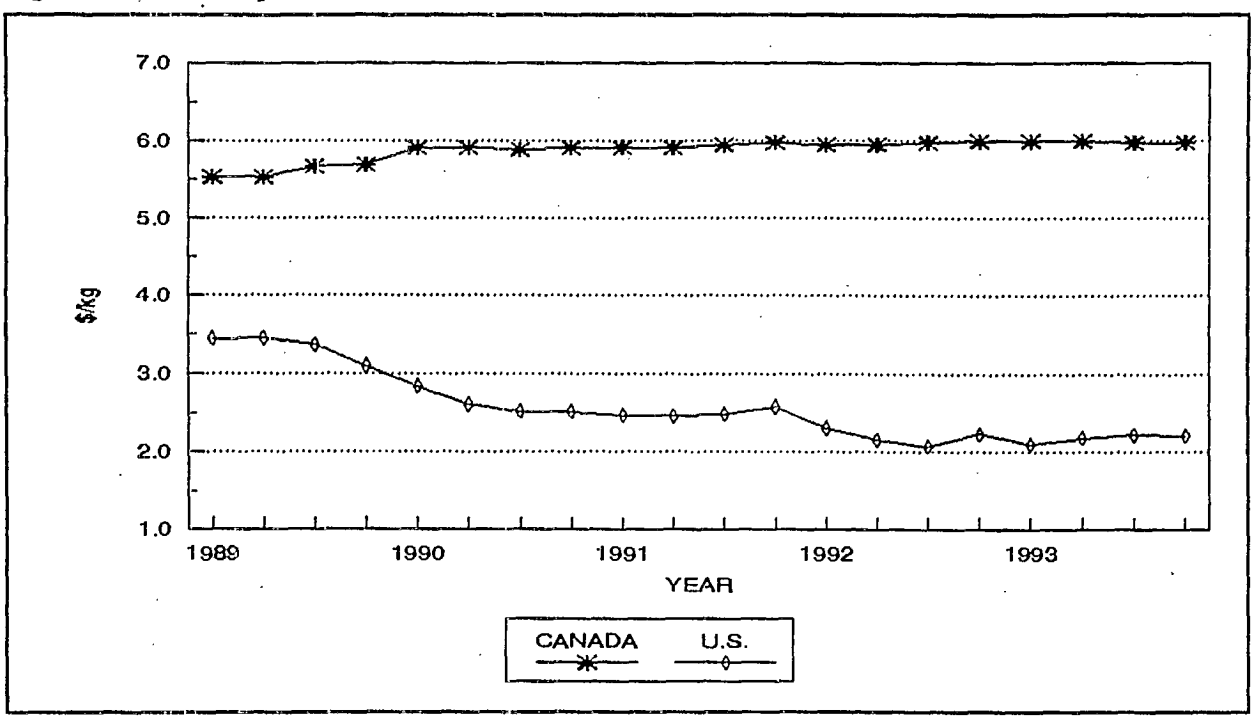
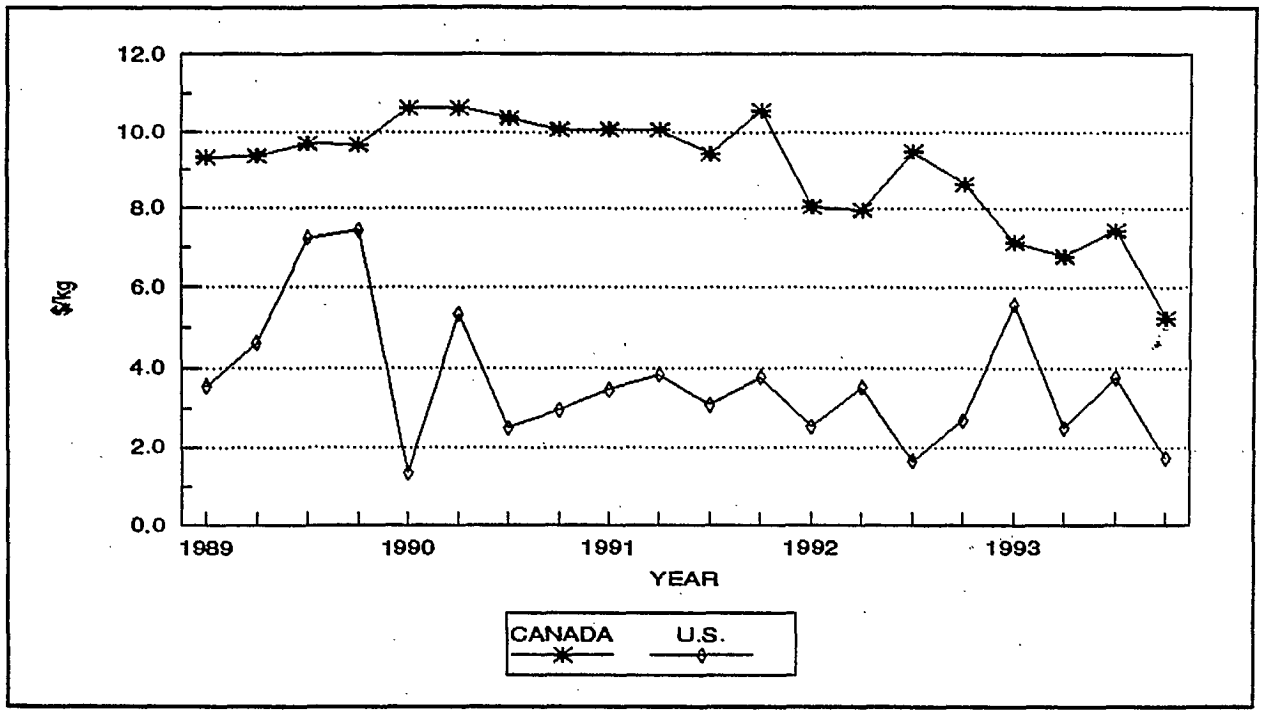


Figure 2.19: Comparison of Spread Between Wholesale Butter Price and Equivalent Industrial Milk Price in Canada and the U.S.: 1989 - 1993



Some Issues Common to All the Supply Managed Industries

There are several issues of more or less general interest to all of the supply managed industries. These will be discussed briefly in this section.

The first issue has to do with jurisdiction. In part, because of the number of processes that government has introduced in the past several years to try to make supply management more market responsive, the industries themselves are somewhat upset about who has regulatory responsibility for them. In the case of the poultry industries, the National Farm Products Marketing Council is supposed to have major jurisdiction. However, the NFPMC was not given power to enforce any decisions, and it is not clear in whose interest the Council is supposed to regulate. Thus, its major impact has been through moral suasion. Agriculture Canada, particularly in the form of the former Associate Deputy Minister referred to earlier, has become involved in the administration of dairy policy on several occasions. Not surprisingly, the producers in particular have been somewhat less than enthusiastic about having more than one set of masters. They would like someone to show who is in charge if someone is supposed to be in charge.

A similar argument can be made in the case of the dairy industry where the Canadian Dairy Commission has responsibility for industrial milk, no Federal agency has responsibility for fluid milk and the Department of Agriculture has introduced a number of processes for moving toward a more flexible, responsive system.

This leads to a second part of the problem. It is with respect to who should initiate changes in the system. The current process chaired by Parliamentary Assistant Van Clief clearly demonstrates that government is willing to take a leadership position. The industries, especially the dairy and turkey industries, argue that it is the industries themselves who should take a leadership position. Their argument when the van Clief exercise began was that either they should be left alone to finish what they started in the processes referred to above, or that food service, retailing, and consumer interests should only be brought in after producers and processors have decided what proposals to make to change the nature of commercial relationships in the industries. Some are making this a major issue. It is our perspective, however, that the process defined by the Van Clief committee is not in conflict with the desire for the industries to make changes. There is no obvious reason that producers and processors could not offer alternative commercial relationships to their customers within the confines of the Van Clief process. At most, it would appear that the Van Clief process merely puts additional pressure on to hurry the outcome.

On a very different note, a common issue that the industries must be concerned about if they propose to use the levels of tariffs that were conferred in the GATT process as the basis for pricing, is smuggling. Recent experience with tobacco and with cross border shopping indicates that Canadians are price sensitive, at least at some level. As Canadian society becomes more comfortable with not being boy scouts, the risk of and the propensity for smuggling increases.

2.3 The Grains and Oilseeds Industries

The grains and oilseeds industries have been highly regulated in Western Canada by the Canadian Wheat Board, the Canadian Grain Commission (CGC) and the Grain Transportation Authority (GTA). The Eastern grain industry has been considerably less regulated although it is affected by CGC regulations. Most regulation in the East is associated with the Ontario Winter Wheat Marketing Board.

2.3.1 The Prairies

The CWB is responsible for the marketing of wheat and barley produced in the Canadian Wheat Board designated (the Prairie provinces and the Peace River area of British Columbia) to the domestic food market and the export market. Grain producers in the west have "permit books" which provide the basis for delivery quotas which may be imposed by the CWB. Delivery quotas are used to control the flow of grain into the elevator system. They are based on acreage registered in the permit books. A delivery quota for a given period may be 0.5 tonnes per hectare. So a grower can deliver half a tonne into the system during that period of time for each hectare registered in the permit book. Because the CWB regulates delivery, growers hold a greater amount of on-farm storage than would otherwise be the case. Elevators' merchandising activities for board grains are essentially restricted to being paid handling and storage fees by the CWB.

Hopper cars are in chronic short supply since Canada's freight rates for grains for both suppliers and users of are highly regulated by the Grain Transportation Authority. This is one of the reasons the CWB controls supply into the elevator system. In the past, delivery quotas have also applied to non-Board grains and oilseeds even when the Canadian Wheat Board had no marketing authority. This effectively took control from the actual merchandisers and gave considerable power to the Canadian Wheat Board. The same has been the case for Board grains that are delivered to the off-Board market. This is apparently not happening now, but the Canadian Wheat Board retains the power to re-establish delivery quotas for non-Board and off-Board commodities if it deems it appropriate.

There have been times when deliveries to the domestic feed market have been deducted from CWB delivery quotas, thereby penalizing the grower for delivering into the feed markets, which is usually the lower priced market.

Another aspect of the CWB operation is price pooling. With it, growers receive an initial payment when they deliver to the elevator, an interim payment may be made if world prices are well above the initial price, and a final payment is made after the crop year is finished. The CWB markets the crop and its costs are deducted from a revenue pool before the final payment is made. This occurs well after the end of the crop year. This pooling operation has several effects:

1. It provides equity to all producers.

2. It spreads price risk among all producers.

3. It allows farmers to specialize in production without being particularly involved in most aspects of marketing.

4. It penalises those with good marketing skills.

5. It makes it difficult for farmers to anticipate what their returns will be.

6. It blurs market signals. It reduces the possibility of end use pricing, limits the ability of farmers to differentiate their products, and it makes it difficult to pursue new product markets.

Producers' Subsidies

In addition to the pricing and marketing system of the CWB, Western grain producers have been the recipients of large sums of government subsidies over the past few years. The rationale for these payments was:

A. That Western farmers are being injured by U.S. and EU export subsidies.

B. That real grain prices have been historically low, are forcing farmers off the land, and ruining rural communities in the West, particulary Saskatchewan.

In recent years, subsidies have been paid out through the Gross Revenue Insurance Program (GRIP) and the Net Income Stabilization Account (NISA). The former bases payment on the gross revenue in the current crop year relative to an historical period for an individual commodity. NISA triggers payments based on net income from a set of commodities relative to an historical period. Payments have also been made to growers under the so-called third line of defence, which were basically judgment calls made by the Federal Government.

The WGTA

The WGTA, which provides transportation subsidies on grain shipments from Western Canada to Thunder Bay and Vancouver, has a number of consequences for international competition. The consequences are as follows:

1. It subsidises grain from the Prairie provinces to export destinations.

2. Therefore, WGTA is counted as an export subsidy in GATT.

3. It has resulted in subsidies to offset the original subsidies. Over time, arguments have been made and accepted that there should be offsetting subsidies for primary processed products from Western Canada to the export point. In the mid 1980s, it was also argued that the WGTA is an unfair disadvantage to livestock producers in Western Canada because it gives an advantage to importers in other countries. As a result, two Prairie provinces entered into the so called "Crow Offset" subsidies which gave a subsidy to livestock producers in those provinces using local transportation.

Pricing to End Users

The CWB also has a great deal of influence on end-user prices. In the case of the export market, the CWB apparently follows a range of pricing options:

A. Prices are set on a spot basis related to U.S. futures prices.

B. Prices may be negotiated on long-term contracts.

C. Prices may be established under some combination of A and B when importers tender to alternate exporters.

In the domestic market, the CWB had a monopoly on pricing powers for human consumption until the Canada/U.S. Trade Agreement (CUSTA). Before CUSTA, the CWB practised a two price system for wheat that put the domestic price at a premium to world price if the world price was below the minimum level in a price band, and put the domestic price

below the world price when the world price was above the top of the price band. The band was defined such that the world price was generally below the bottom of the band most of the time. So domestic end users normally paid a considerably higher price than export users. Prices were usually set for six months and not changed except, perhaps, to cover carrying costs.

The two price system was enforced because Canada was protected by import licences. In principle, the CWB granted licenses for the importation of wheat, oats and barley when there was insufficient supply in the domestic market. In practice, they never granted licenses.

CUSTA exempted the U.S. from export licenses, under a set of conditions that have essentially been met. This has had several repercussions in the domestic market:

1. It ended the two price system for wheat.

2. It removed oats from the Canadian Wheat Board. As a result, considerable creativity has occurred in new investments in the manufacturing of oat products for end users.

3. It meant end user pricing had to change.

The changes in pricing are drastic. Prices now vary daily as in the rest of the world. The CWB essentially lets the U.S. market set prices and the CWB sets the basis, eg. the CWB determines how much more or less than U.S. prices a domestic company will pay for grain at Thunder Bay. Again the market says what grain is worth in Indianapolis or Chicago. Domestic users cannot negotiate and they can use no domestic futures or options markets to hedge. They must use the U.S. market. In the case of Durum wheat there is no futures market anywhere.

Other Regulatory Structures

In addition to CWB and WGTA regulations, many other aspects of economic life in the grain industry have been regulated, mainly by the Canadian Grain Commission (CGC). Regulations range from maximum handling fees for elevators, to very stringent grades and standards, to government licensing of the seed varieties that can be marketed. Most of these regulations were developed from a producer perspective. Maximum handling fees, for example, seem to have arisen from the perspective that there is too little competition among elevators and that farmers need to be protected from them. Policies and regulations on grades and variety licensing arose from the perspective that Canada should be the world leader in "high quality" wheat and that visual genetic purity should be maintained in the varieties.

In our view, many of these regulations limit Canada's ability to be competitive and limit competition in the grain industry. Some reasons are as follows:

1. Most of these regulations are production based, not demand based. For example, maximum elevator charges are based on costs and are set in a public utility framework. In contrast, U.S., and to a large degree Eastern Canadian, elevator

handling margins are market determined. The maxima in Western Canada have tended to be the rates, not just maxima. They have tended to reduce competition, especially given the remainder of the regulatory environment in which elevators operate. For example, if the Canadian Wheat Board regulates deliveries to and movement out of the elevator system, there is little incentive to reduce costs and reduce handling fees below the maxima. Moreover, the philosophical argument for protecting farmers from elevators seems unjustified since a major part of the elevator network in Western Canada is run by farmer-owned cooperatives.

Many of these regulatory structures have parallels in the east. For example, the CGC sets maximum tariffs for transfer elevators on the St. Lawrence system. As with Western Canadian country elevators, the maximum tariffs are based on costs. In a study we performed for the Ontario Corn Producers' Association in the 1980s, it was found that elevator handling charges on the Great Lakes were three to four times higher than the charges of unregulated elevators on the U.S. side of the border. This is one of the several factors that have priced the St. Lawrence system out of the market.

2. To our knowledge, there is no demonstrated argument that any single classification system, especially one based on visual characteristics, can possibly represent all the characteristics that are important to the wide array of end users of grains and oilseeds.

These, plus the issues discussed in the previous sections have led to less competition in these industries. There has been little incentive for the grain handling system to try new ideas. It is our perception that when new ideas have been tried or suggested, they are often resisted. In addition, the emphasis of the system on bread quality wheat, centralized control, centralized regulation and the export markets has discouraged domestic investment in value-adding processing activities.

Oilseeds

With the exceptions of the restrictions imposed by the grain industry and transportation that were discussed above, the oilseeds industry operates in a market that is relatively open. Research to reduce erucic acid in rapeseed that has resulted in renaming it canola, has caused major payoffs to the industry, especially in Western Canada. This is in part because of the quality of the lipids in the product. The Canadian industry lobbied the U.S. to allow Canadian canola to be used for human consumption, which was previously banned because of erucic acid. The success of this effort at a time when many Americans are conscious of fat in their diets has been a considerable boon to the Canadian industry. This year, for the first time in history, seeded acreage of canola will exceed 4.5 million hectares and will exceed the acreage of barley.

Much of the investment in oilseed processing facilities has occurred in Western Canada. At least two additional factors have contributed to its location there. The first is the introduction

of transportation subsidies on oil and meal to offset the subsidies on canola. The second is considerable provincial and federal government investment and other financial assistance in plants.

2.3.2 The East

In the East there are provincial marketing boards only for winter wheat and soybeans (in Ontario). The Ontario Winter Wheat Producers' Marketing Board has operated in ways similar to the Canadian Wheat Board in that it is directly responsible for marketing the crop, provides farmers with initial and, when relevant, interim payments, does price pooling and pays country elevators for storage and handling fees. The Soybean Marketing Board has negotiating powers and does negotiate a minimum pricing formula based on Chicago futures prices. Our impression is that it has little intervention effect in the market and has tended to operate more like an association than a board during the past few years.

For soybeans and corn, country elevators merchandise the products in the market place (by buying, storing, selling and hedging). They also store grain for farmers for a fee. In their merchandising activities, they compete with cash brokers, end users (feed companies, starch and cereal manufacturers, and oilseed crushers). They also, to some extent compete with farmers who have on-farm storage space and who can deliver directly to some end users.

2.3.3 Structural Issues

The structural issues among end users of grains are quite different than the commodities discussed to date. Tables 2.4 - 2.9 contain the structural coefficients from the 1980s. Note that there is no table for the oil crushing industry because of a lack of comparability between Canadian and U.S. data.

As can be seen, the structures are very different from those that rely on supply managed commodities. The industries fall into two groups. The first is the bread and feed industries. For these industries, Canadian plants are smaller in terms of the number of production workers, sales and value added per plant. In addition, value added per dollar of sales is lower. The small size of plants likely has two reasons. In the case of the feed industry, it is most likely a reflection of smaller livestock operations and a slower trend toward centralization of feed plants. In the case of bakeries, it is our perception that Canada's bakeries have, in general, provided a higher degree of ethnic products from small specialized bakeries. The trend toward large central bread baking plants has been much slower in developing in Canada than in the United States. Hence it is not surprising to see these results. The value added per dollar of sales relationship probably occurs for the same reason as will be explained below for the second group.

The second group has a remarkable consistency. All four Canadian industries (biscuits, breakfast cereal, flour, and pasta) have larger plants in terms of the number of production workers per plant and sales per plant. In all cases, the relationship between

management/administrative workers and production workers is higher in Canada than in the United States. At the same time, value added per plant in Canada is lower than or equal to the United States. Therefore, value added per dollar of sales is lower in Canada.

Table 2.4: Characteristics of Bread Plants in Canada and the U.S. 1980 - 91 (All Monetary Units are Canadian Dollars)

	Canada	U.S.
Number of Plants	748	1,883
Production Workers/Plant	21.1	46.4
Admin. and Mgt. Workers/Plant	10.4	40.8
Sales/Plant ($Mil.)	2.9	11.2
Value Added/Plant ($Mil.)	1.6	7.0

Source: Developed from George Morris Centre, Profile of Canada's Food Processing Industry, Guelph, May 1993.

Table 2.5: Characteristics of Feed Plants in Canada and the U.S. 1980 - 91 (All Monetary Units are Canadian Dollars)

	Canada	U.S.
Number of Plants	552	2,064
Production Workers/Plant	10.8	15.3
Admin. and Mgt. Workers/Plant	6.3	9.2
Sales/Plant ($Mil.)	6.3	11.9
Value Added/Plant ($Mil.)	1.1	3.8

Source: Developed from George Morris Centre, Profile of Canada's Food Processing Industry, Guelph, May 1993.

Table 2.6: Characteristics of Biscuit Plants in Canada and the U.S. 1980 - 91 (All Monetary Units are Canadian Dollars)

	Canada	U.S.
Number of Plants	32	388
Production Workers/Plant	140.0	90.6
Admin. and Mgt. Workers/Plant	58.5	32.8
Sales/Plant ($Mil.)	29.0	21.4
Value Added/Plant ($Mil.)	9.0	12.4

Source: Developed from George Morris Centre, Profile of Canada's Food Processing Industry, Guelph, May 1993.

Table 2.7: Characteristics of Breakfast Cereal Plants in Canada and the U.S. 1980 - 91 (All Monetary Units are Canadian Dollars)

	Canada	U.S.
Number of Plants	20	119
Production Workers/Plant	92.1	50.9
Admin. and Mgt. Workers/Plant	56.4	22.7
Sales/Plant (Mil.$)	38.1	24.9
Sales/Plant ($Mil.)	17.2	16.0

Source: Developed from George Morris Centre, Profile of Canada's Food Processing Industry, Guelph, May 1993.

Table 2.8: Characteristics of Flour Plants in Canada and the U.S. 1980 - 91 (All Monetary Units are Canadian Dollars)

	Canada	U.S.
Number of Plants	44	336
Production Workers/Plant	54	31.1
Admin. and Mgt. Workers/Plant	30.5	10.9
Sales/Plant ($Mil.)	30.4	22.9
Value Added/Plant ($Mil.)	4.8	3.7

Source: Developed from George Morris Centre, Profile of Canada's Food Processing Industry, Guelph, May 1993.

Table 2.9: Characteristics of Pasta Plants in Canada and the U.S. 1980 - 91 (All Monetary Units are Canadian Dollars)

	Canada	U.S.
Number of Plants	36	343
Production Workers/Plant	26.3	14.9
Admin. and Mgt. Workers	21	5.6
Sales/Plant ($Mil.)	8.4	4.7
Value Added/Plant ($Mil.)	2.3	3.1

Source: Developed from George Morris Centre, Profile of Canada's Food Processing Industry, Guelph, May 1993.

This rather surprising structure for the average plant may be based on the following arguments. In all cases, the products from these industries were highly protected with tariffs before the Canada U.S. Trade Agreement. We believe that tariffs for these industries were minimum 10% ranging up to almost 20%. Hence, there was a tendency to build plants in Canada to serve the Canadian markets, perhaps with enough scale to serve the entire Canadian market. This tendency was likely abetted by transportation subsidies for Western grains to Eastern Canada. The tendency therefore was to put plants in Eastern Canada with sufficient capacity to serve the entire country in terms of products.

Finally, most of the industries rely to some extent on wheat. During the 1980s, Canada had a two price wheat system which resulted in, generally, higher prices for wheat in Canada than in the United States. Thus, while Canadian tariffs likely gave companies the ability to charge higher prices for finished goods in Canada, two-price wheat likely increased the cost of raw materials. This combination of factors would explain higher sales and lower value added per plant in Canada - ie; the effect of two-price wheat offset the effect of tariffs during this period.

What is interesting and difficult to explain is the extremely high ratio for these industries between management/administrative workers and production workers. They are all considerably higher. It is not clear why these occurred. One possible explanation is that the protection afforded to them on both the product and raw material sides of the business may have encouraged a degree of organizational slack.

2.3.4 Effects of Trade Agreements

The grain and oilseeds industry has been substantially affected by the Canada/U.S. Trade Agreement. The agreement removed import licenses for wheat, oats and barley. Moreover, almost simultaneously, oats was removed from the control of the Canadian Wheat Board. Removing import licenses meant that two priced wheat could no longer be sustained. It was removed almost immediately upon signing the agreement. On the product side of the processing industries, tariffs are being removed. Hence, the Canadian market is no longer isolated from the rest of the world. This clearly has implications for imports and for the potential movement of plants from Canada to the U.S., especially those that were old and high cost. At the same time, removal of two priced wheat provides the possibility for developing export markets for products manufactured from it. It is our impression that this has occurred during the 1990s for biscuits and, to a limited extent, for bread. In addition, manufactured oat products for use in breakfast cereals and other products that was, before the removal of oats from the Canadian Wheat Board, produced in the United States, are now being produced in Canada. In some cases, Canada has become an exporter of those products.

NAFTA does not likely pose any additional considerations for the Canadian industry from the import perspective. However, removal of Mexican import licenses and the decline in Mexican tariffs provides opportunities for grain based products in that country. It is not likely

that Mexico will ever be self sufficient in grain production, especially for feed and wheat based products. Therefore, NAFTA probably provides opportunities for exports.

The GATT agreement has additional implications for these industries. First, import licenses for wheat, oats and barley that continued to be applied to non-NAFTA countries are being replaced by tariffs. The tariff levels are relatively high, but protection will likely decline over the implementation period. Second, and more importantly, GATT essentially puts restrictions on the use of WGTA for export subsidies. The amount of the portion of the WGTA applied to export grain must be reduced during the phase-in period. In addition, all of Canada's safety net programs, such as GRIP, NISA, and crop insurance are subject to the caps on domestic subsidies, and, in particular, are likely to be regarded as amber for the purposes of trade disputes. These programs do not meet the criterion of general availability. Thus, while the expenditure caps in GATT are likely to be met by the safety net programs, they are clearly countervailable. Therefore, the safety net programs are likely to be considerably redesigned over the next several years.

In order for safety nets to be considered green under GATT, the two most important characteristics seem to be that government support should not be triggered by events in a single commodity market, but rather by a farmer's whole farm income experience, and that the trigger point should be no greater than 70% of some historical period. Neither GRIP nor NISA meet these criteria.

2.3.5 Analytic Model for the Grain and Oilseeds Industries

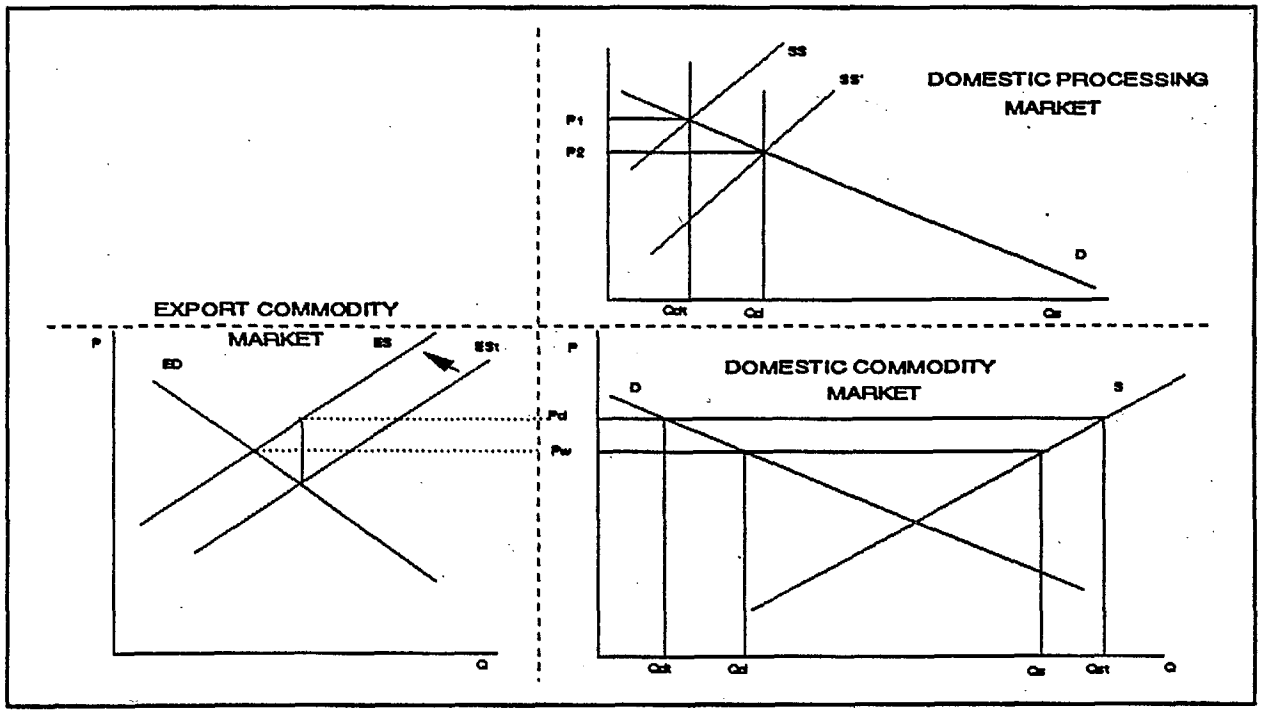
To an extent, the grain and oilseeds industries can now be characterized, with respect to international trade, as an open market. The removal of transportation subsidy without the introduction of any trade barriers puts it in that general position. Diagrammatically, it can be represented as in Figure 2.20. The lower two panels are the export and domestic markets for bulk grain/oilseeds. The upper panel provides the link between domestic farm production and domestic processing. The base price and production scenarios in the figure assume that a transportation subsidy (e.g. the WGTA) is in place and the alternative scenario assumes that it is removed. In the base scenario, excess supply is represented by $_{EST}$ while in the alternative scenario, it is represented by ES. The domestic price and quantity demanded and supplied in the base scenario are P_d, Q_{dt} and Q_{st}. Upon removing the transportation subsidy, the domestic price will be the same as the world market price, P_w and the respective quantity demanded and supplied are Q_d and Q_s.

By this model, which assumes all other things remaining unchanged, the removal of the transportation subsidy would shift the excess supply function to the left by the amount of the subsidy. The impact of this shift is that production of grains/oilseeds in Canada decreases by (Q_{st} - Q_s) while demand for grains/oilseeds by processors increase by (Q_{dt} - Q_d). Thus, the removal of the subsidy results in an increase in domestic consumption and a decrease in production and exports of grains and oilseeds.

From the top panel of Figure 2.20, it is observed that the removal of the transportation subsidy leads to a reduction in the price of processed grain/oilseed products in the domestic market and an increase in the supply of such products. The changes in the domestic commodity market and the domestic processing market shows that both domestic processors and domestic consumers benefit from the removal of the transportation subsidy by an increased consumer and producer surpluses.[4]

The same figure may be used to analyze the impact of changes in regulations. Depending upon their nature, regulations, such as seed certification or pesticide licensing may distort the farm level supply function, or the relationship between the farm level and processed markets. Regulations may increase supply at the farm level. If this is the case, then the derived supply function for processed products would be shifted upward and the derived demand function at the farm level would be shifted downward correspondingly. The effects are quite clear. Similarly, regulations that increase the cost of transformation of raw products into final products would change the derived supply function and the derived demand function in the diagram.

Figure 2.20: Impact of Removing Transportation Subsidy on Domestic Production of Grains and Grain Products



[4] The producer and consumer surpluses are measured in the top panel of Figure 2.20.

2.4 The Red Meat Industries

The red meat industries produce beef and pork in fresh, frozen and further processed form. Products are sold through the domestic retail grocery industry, domestic food service, and exported throughout the world.

The pork component of the industry is a net exporter. Depending upon the year, from 25% to 33% of domestic production is exported. The beef industry has two general product components: high quality (generally, from grain fed young cattle), and manufacturing quality (generally, from older cattle or grass fed cattle). Most of Canada's production of manufacturing quality beef comes from cows culled from either the dairy herd or from the beef breeding herd. The major source of competition for this beef is Australia and New Zealand, which is produced from grass fed cattle.

Canada is a small net importer of both qualities of beef. Manufacturing quality product comes mainly from Oceania and, sometimes, Nicaragua. High quality beef or cattle are exported to the US and Asia from Western Canada, and high quality beef is imported into Eastern Canada.

The trade situation described above, along with the fact that there is little tariff or non-tariff protection for these industries means that they face competition from other countries. These are the least regulated of the industries examined in this project. There are no national marketing boards or commissions. There are no provincial boards for beef cattle. Provincial marketing boards for hogs have focused over time on matters that are designed to enhance the efficiency of the marketing system.

The major direct policy issues that affect these industries are technical regulations (inspection and grading) and safety net policies.

2.4.1 Structural Aspects of The Industries

The industries have evolved quite considerably over the past few years. At the primary production level, the structure is quite atomistic. There is very little concentration and farms are generally not large. If there is an exception, it is in the beef feeding component of the industry in Alberta. Much of the feedlot capacity has migrated to Alberta, where some of it is in quite large operations. There is also a degree of vertical coordination in the hog industry, especially in Quebec where feed companies and others often control rather large farrowing capacity and contract with farmers to feed out pigs to market weight.

The packing industry is another matter. In the first place, there is a clear distinction between the activities involved in primary and secondary processing. Primary processing

involves slaughter and breaking the carcass into primal cuts. It is extremely difficult to differentiate this set of activities, so competition is based primarily on cost efficiency.[5]

Secondary processing runs a gamut from trimming and packaging through cooking. Success in this area can result from product differentiation to service and the creation of value. While most primary processors are involved in secondary processing, there are only a few relatively large primary processors and many secondary processors. Primary processors are few and large because there are significant economies of size and scope in primary processing, thus contributing to cost efficiency. However, they are not as large as their counterparts in the U.S. as is illustrated by the structural coefficients in Table 2.10. Canadian plants employs fewer production workers per plant, have lower sales and value added per plant.

Table 2.10: Characteristics of the Red Meat Industry in Canada and the U.S. 1980 - 91 (All Monetary Units are Canadian Dollars)

	Canada	U.S.
Number of Plants	524	1638
Production Workers/Plant	48.9	62.5
Admin. and Mgt. Workers/Plant	14.6	14.7
Sales/Plant (Mil.$)	20.2	40.1
Sales/Plant ($Mil.)	3.3	4.9

Source: Developed from George Morris Centre, Profile of Canada's Food Processing Industry, Guelph, May 1993.

In the past, many meat packers had multi-species plants. However, technology has been created that give major cost advantages to specialized equipment and, thus, there are no remaining multi-species plants in Canada. For the beef industry, the move toward Alberta in feedlot capacity was accompanied by considerable new investment in primary processing capacity. In addition to Lakeside/Mitsubishi and Excel, Cargill built a world scale plant in Alberta in 1989. IBP recently purchased Lakeside, and both IBP and Cargill are investing in quite significant capacity expansion that will be on-stream in 1996. No other province has facilities that rival those in Alberta in size, and none have more than one or two large plants. For example, Ontario has just one. On the surface, this suggests a highly concentrated industry. However, both cattle and beef are easily traded across provincial or international boundaries. Hence the level of competition is relatively high.

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[5] The major exception to this generalization is small localized packers who often sell directly to consumers and, therefore, can use quality and service as components of their strategies.

Similarly, pork primary processing is in relatively few hands in all regions. In Quebec, there are multiple plants, but nearly all are controlled by Coop Federée. There are three majors in Ontario, and no other province has more than two. The structure at this level of the market will continue to evolve as it has throughout history because the industries face continuous cost competition, especially from the U.S.

The regulatory environment affects these industries directly through their implications for costs. Until the present, the public paid for grading (quality assurance) and inspection (food safety). It is clear that the industries will be expected to take on the entire cost of grading and a substantial amount of the cost of inspection. Those costs, as they are incurred by Agriculture and Agri-Food Canada, are in the range of $100 million annually. Obviously, they will affect cost structures. It is an ironic aspect of Canadian public policy that, while GATT made grading and inspection "green" and, therefore, policy instruments on which a country can legally spend money, Canada is reducing its expenditures on them withdrawing from these areas.

Changes in the regulatory environment will also likely have secondary effects on the industries. As the cost of and responsibility for quality assurance and food safety shift from the public to the private sector, they will become candidates to be sources of differentiation by food companies. Thus the second irony of the emerging system is that, while the private sector must take on an additional burden of cost, it may also result in an additional source of revenue.

Safety net policy likely has an effect on the level and location of production. For years, when the National Tripartite Stabilization Program (NTSP) was in place, livestock producers found it relevant to try to figure out what the program payout would be and make production decisions based on it. This is a case of confusing a safety net with a hammock. The NTSP program has been phased out, so farmers now need to make their decisions on the basis of market expectations. This may change again in future as the federal ministry is expecting to introduce a subsidized commodity option contract for beef cattle in mid-1995. It may become a substitute for a government program.

2.4.2 Effects of Trade Agreements

On the surface, CUSTA seemed to have few implications for the red meat industries. However, it did include a section on harmonizing and eliminating each other from each other's meat import acts and implied that meat inspection rules would be harmonized. Our perception is that this contributed to the decision by Cargill to invest in Canada.

GATT will significantly reduce the barriers to entry into markets around the world, especially in Asia, and particularly for meat products. This should provide new opportunities for the Canadian industries. A number of people who are closer to the industries than we are believe that Canada, especially Alberta, have a competitive advantage in Asian markets with the GATT access, and that it is the reason that IBP has decided to invest in Alberta.

3.0 Alternatives for the Bureau to Pro-actively Promote Competition Policy

In this section, we summarize some of the pertinent observations from the previous section about competition issues in the agri-food sector, identify some additional ones for the various commodities, and discuss alternative means by which the Bureau could affect them.

3.1 Summary of Issues in Supply Management

Several issues arise from the discussion of issues about supply managed commodities in section 2.0:

1. Although not mentioned explicitly, the existence of quotas represents a significant barrier to entry in these markets. It is the case not only for farmers, but also for processors. Not having access to raw product or having the perception that access is or can be limited, likely prevents people or companies from entering or, especially, from developing new markets. An example is a current case in British Columbia in which a dairy farmer perceives a significant market for organic milk. To develop it, there will be additional (to normal) costs of identity preservation, (likely) feed, distribution, and market development. The farmer has requested a new allocation of milk quota on an experimental basis, on the ground that the high and unknown costs of developing the new market likely will not make it feasible to use newly purchased quota for the traditional fluid market: the cost of quota and market development makes it a risky venture. The farmer is willing to work with the provincial board to determine the appropriate method to allocate or transfer quota if the experiment is successful. For over two years the board has refused to even answer the request. We have documented several other cases of foregone opportunities in which inability to obtain quota was the barrier to entry.

2. As the contractor has said on several occasions, there is a need to think clearly about how to reform supply management. A starting point might be to go back and examine the official objectives of the national agencies. The *National Farm Products Marketing Act* is rather clear on the reasons for allowing the establishment of national agencies. Section 21 of the Act says:

> "*The objects of an agency are*
>
> *(a) to promote a strong, efficient and competitive production and marketing industry for the regulated product or products in relation to which it may exercise its powers; and*
>
> *(b) to have due regard to the interests of producers and consumers of the regulated product or products*"

Efficiency, competitiveness and the interests of producers and consumers are all matters for which tests or standards can be developed against which to measure the performance of the agencies. The literature abounds with analyses that indicate that performance of the agencies is lacking on these variables. Yet little has been done to correct the problems. If there is a serious commitment to the "objects of an agency", then government needs to investigate ways of achieving them.

3.3 Issues in the Grain and Oilseeds Industry

The policy situation in grains and oilseeds seems to us to favour raw products over domestic value adding activity, and to increase the cost or risk of entry into new ventures and new markets. The issues of particular note are:

(a) Transportation subsidies. These still tend to favour the movement of raw products out of the West.

(b) Canadian Wheat Board. This institution tends to focus on the export market in its activities to the expense of the domestic market. This attitude becomes remarkably apparent if one works at all closely with the CWB. They simply ignore the domestic market and are capable of arbitrarily making decisions that may help their export efforts but impede development of the domestic market. Imposing delivery quotas for off-board and non-board grains, as they have done in the past, are cases in point. Many question the need for them to administer the basis for wheat in the domestic market instead of letting the market discover the basis. The livestock industry has complained bitterly that it has been impeded by the CWB's focus on the export market for feed grains. All of these increase the risk of any firm which tries to develop a domestic value adding capability.

(c) The almost paternalistic regulatory environment. The regulatory environment tends to substitute regulation for trust and competition. It also tends to force most product, and the nature of most transactions toward arbitrarily set standards. This in turn discourages the search for market opportunities, or the provision of market services, that differ from the standard, exactly where one normally finds value adding opportunities.

(d) The inability of the Canadian market to arbitrage. Because of the monopoly position of the CWB and the importance placed on price pooling, the Canadian spot market is unable to take advantage of short term opportunities in the U.S. In fact, in a sense it is difficult to even define what an opportunity is since Canadian producers receive an initial price from the CWB and the off-board market only represents a portion of demand. This limits entry because entrepreneurs cannot take advantage of market opportunities.

(e) Safety nets. These tend to be built around the existing six major grains and oilseeds. Because they absorb considerable market risk, they provide a disincentive for firms to develop markets for new commodities.

Given this definition of the issues, it follows that improved performance would result from:

- more focus by the CWB on the domestic market
- an end to transportation subsidies
- reduction of the amount of regulation that limits product quality, product development and the range of services that can be offered by firms in the industry
- the ability for firms to arbitrage the Canadian market
- a safety net program that bases financial support on all sources of Canadian farm income.

Based on this, there are several areas where the Bureau could have an impact. The most obvious is in the current process to determine the method of payment for the grain transportation subsidy. Second, there may be further process regarding the CWB's role in the North American barley market if the lawsuit on the constitutionality of the CWB Act is successful.

A third opportunity is in the on-going process to review agri-food regulations. While the formal process is over, Agriculture and Agri-Food Canada have an advisory committee to the department and two to Food Production and Inspection and the Grains and Oilseeds group on implementation. There is a fairly widespread perception that the Regulatory Review promised more than it delivered. The process has had people observing from a number of interested departments. Perhaps an appearance by the Bureau with expressions of concern about the implications of regulations on competition would have an impact. In our view, alternatives that would have a positive impact include the following:

- a grading policy that uses government to assure the buyer that the product delivered is as described, instead of assuring it meets an arbitrary standard

- much less regulation of seed varieties. The system in Canada is tied up in huge amounts of red tape, extremely long delays in getting products tested, and centralized influence by the CWB. An alternative is to simply ensure that companies clearly identify their products and ensure that their products meet the claims that are made. There is nothing more likely to damage a brand name than to have its products be proven different than claimed. Otherwise the market will evaluate brand quality.

- end cost based pricing of services in the grain handling system and end all maximum handling or storage charges.

A fourth opportunity will likely occur during the next two or three years. As a result of GATT, the safety net system will need to be reinvented. A process will be defined soon. The Bureau could easily be part of it, arguing for a broad based system that will encourage new products instead of discouraging them.

The Bureau's most likely allies in these efforts are: The Western Canadian Wheat Growers Association; the Western Barley Growers Association; The Alberta Barley Commission; and United Grain Growers. The Canadian National Millers Association might also be possible allies. There is also a new group of pasta manufacturers who could be strong allies.

3.4 Issues in the Red Meat Industry

The major policy issue that affects the red meat industry is technical regulation (inspection and grading). The most important question is who pays for technical regulation?

There are two competitiveness aspects:

(1) If you raise production costs relative to other competitors (eg. the U.S.), this could have a negative effect on the competitiveness of Canada's red meat industry.

(2) However, there is also a positive aspect. The privatization of the inspection and grading of red meat provides processors with another mechanism to differentiate their product, both from domestic competitors and international ones.

The issue about costs is made more complex by the fact that there are different potential benefactors of grading and inspection (eg. consumers and processors) and it is not clear what the distribution of the benefits are and how they could effect how the costs are paid. This is an area that needs further examination.

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