

MANITOBA CORN GROWERS ASSOCIATION INC.
VS.
U.S. CORN EXPORTS
(An Application of Regional Market Rules
Under Canadian Trade Remedy Law)

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Final 4.9.02**MANITOBA CORN GROWERS ASSOCIATION INC.
vs.
U.S. CORN EXPORTS¹****INTRODUCTION**

Prairie corn production is, by almost all standards, a small crop. Manitoba production represents most of the corn produced on the Canadian prairies so it is also small. But it is not a "small" crop for the three or four hundred producers who grow it, and it is a relatively high input and risky crop. These growers, like most other Canadian crop producers, are aware of the high level of public support available to crop producers across the border in the United States. They are also aware that their ability to obtain favourable returns from the market place is reduced by that public support. Along with a fledgling soybean effort in a few areas, U.S. production and imports dominate the corn market more than any other commodity on the Canadian prairies. As a consequence, this small group of Manitoba corn producers attempted to seek relief from the unbalanced trading environment by an application to Canadian trade remedy law (TRL) as expressed in the Special Imports Measures Act (SIMA). In August 2000, the association representing Manitoba corn growers (MCGA) filed anti-dumping and countervailing duty actions against imports of grain corn from the United States. Because of the geographic area covered by the action, this case was subject to regional, as opposed to the more frequently used national, rules of inquiry, findings and injury.

In its preliminary investigation reported in October 2000, Canada Customs and

¹ This paper has been researched and written solely by the author but comments were provided by several colleagues and confidantes. The author retains full responsibility for its contents.

Revenue Agency (CCRA) upheld the claims of dumping and subsidization, and proceeded to determining the initial assessment of injury. On November 7, 2000, large dumping (ADD) and countervailing (CVD) duties were applied which effectively cut off all corn imports into the prairies from the United States. This development caused major disruptions in the livestock/ feed sectors of southern Manitoba, and many groups became involved in lobbying the investigation process to have the duties removed. There was very little visible intervention in this process from south of the border. On March 7, 2001, the Canadian International Trade Tribunal (CITT) reported a finding of *non-injury* "to all or almost all producers" in the prairie region and, according to the rules, terminated the action and the duties. This finding occurred in the face of a large, combined dumping and subsidization margin, despite the finding of significant price reductions for many producers, and despite evidence that there is a direct and close relationship between U.S. corn prices and those on the prairies. The finding of injury was entirely the result of the regional rules under which the case was administered.

This purpose of this paper is to describe the nature and process of this regional application of Canadian trade remedy law. Background information is intentionally limited because ordinary market relationships had little to do with the outcome of the case. For this workshop, what is important is the action that was filed, the findings and reasons given by Canadian regulators, and an economic assessment of those factors in relation to:

- (1) the contribution of this trade remedy action to removing policy and trade stress; and
- (2) how these factors relate to the NAFTA as a vehicle for promoting free trade and harmonious trade relations.

Contrary to comments made by the discussant from the National Corn Growers Association (discussion following), the author of this paper is much more interested in implications of this case for dispute resolution and trade harmony within NAFTA than in its actual outcome. This objective fits the intent of presenting four case studies at the workshop.

THE PRAIRIE CORN MARKET

Grain corn production on the Canadian prairies is a relatively new crop and it is highly concentrated in southern Manitoba. Its history really began in the late 1970s when lower

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degree-day varieties became available, weather conditions seemed more favourable, and producers were shopping for alternatives to congested conventional crop markets. Acreage reached 225,000 acres in 1981 but high interest rates, weather problems and production limitations reduced acreage to early 1970 levels in the 1980s. Production increased again after 1996: in 1996 there were 45,000 acres produced in Manitoba; by 2000 that had grown to 110,000 acres. Production in 2000 and 2001 was about 10 million bushels. By contrast, Quebec and Ontario produce up to 350 million bushels which represents 96 percent of Canadian production. Barley, historically the main feed grain, is grown on over 1 million acres in Manitoba, and around 10 million acres on the prairies. (Table 1 and Appendix).

The major use of grain corn on the prairies, domestic and imported, is livestock feed. There is a small amount used in distilling, ethanol production and other minor uses but basically corn competes with domestically produced wheat and barley, and it co-exists with soybean and canola meal as protein sources, in feed mixes. The livestock feed market in Manitoba has been growing very rapidly since the mid-1990s because of the growth of livestock

Table 1. Canadian Grain Production by Region

| PRODUCTION | 1990/91 | 1999/00 | 2000/01 † |
|------------------------|-----------------|----------------|------------------|
| Total E. Canada | 271 million bu. | 350.5 m bu. | 257.3 m bu. |
| Manitoba | 6.5 | 9.4 | 10.4 |
| Total W. Canada | 7.1 | 10.2 | 11.5 |
| United States | > 30 X Canada | > 30 X Canada | > 30 X Canada |

Sources: CITT Research Branch Paper dated 1.2.01 and Canada Grains Council *Statistical Handbook, 2001*. Notes: † indicated estimates.

feeding in the area, mainly hogs. For example, hog slaughter in Manitoba doubled from 1994 to 2000, and when weanling and finished pig exports are included, the data indicate that overall Manitoba hog production has almost tripled in ten years.

This livestock/feed expansion has occurred during a period when two major events

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influencing the feed grain market have unfolded. The first is deregulation. In 1995 the Government of Canada removed a long standing U.S. irritant in the grain industry by terminating almost all of the freight subsidy programs that had existed for grains exported from the prairies. The impact was to significantly lower grain prices within the prairies and increase the motivation to feed livestock. In Manitoba, prices were influenced most and incentives were strongest to diversify into hogs. But higher transportation costs have also caused crop producers to move into higher valued crops (canola, peas, beans, lentils, soybeans, forage seed, corn and potatoes) with the result that wheat production is falling and barley is not increasing despite increased demand for feed.

There is a second, important feed grain development. In most of southern Manitoba, fusarium head blight (FHB) has progressed to the point where it is severely limiting the ability to produce wheat and barley, and effectively cut off local supplies of hog-quality feed wheat and barley. Corn, despite its other production risks in northern conditions, is the only feed grain that has reasonable FHB resistance in the infected area. The alternative is to import barley and wheat from non-infected areas to the west and north, or to import U.S. corn. Both of these feed sources have increased over the past five years.

When these factors are combined, they mean that the intensive livestock area of Manitoba has become an import-based market for feed grain that meets the quality requirements of hog feed. The import basis, by itself, provides a transportation advantage to local producers who have hog-quality feed stocks; corn producers and a few 'lucky' wheat and barley producers are the only producers in the area who can supply that quality. Subsidized corn (and soybean) imports from the United States, as well as the subsidy impacts of U.S. programs on wheat and barley in international markets, reduce overall price levels, limit profitability of crop production and, along with FHB, reduce the incentive to produce corn and all feed grains in the area.

On top of this, the area south of the border has feed prices which are held down by subsidies. The impact has been to switch competitive advantage in livestock feeding from the prairies and the Manitoba corn area to south of the border. In market terminology, there has been a basis switch between southern Manitoba and the northern states sometime after 1996.

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What began as an advantage to the eastern prairies for feeding livestock has shifted south as U.S. crop subsidization has increased. This proposition is confirmed by feed mill buyers, and the fact that Manitoba exports of weanling pigs has gone from 260,000 in 1994 to over 1.5 million in 2001 (Table 2)². This situation has evolved despite the significant fall in on-farm prices resulting from termination of the export freight subsidies on the prairies.

Table 2. Manitoba Hog and Weanling Exports (million live hogs).

| Category | 1994 | 1995 | 1998 | 1999 | 2000 | To Nov 01 |
|-----------|--------|--------|--------|--------|--------|-----------|
| < 50 kgs. | 0.26 m | 0.41 m | 0.85 m | 1.35 m | 1.44 m | 1.56m |
| > 50 kgs | 0.17 m | 0.32 m | 0.81 m | 0.93 m | 0.90 m | 0.81 m |

Source: Janet Honey, Policy and Program Branch, Manitoba Agriculture.

Imports of U.S. corn into western Canada have exceeded production in the area every year since 1990-91 except 1991-92, sometimes by a factor of two or three (Table 3). Over this period, at least half of the imports were into Manitoba. Imports from the United States into eastern Canada are about double those into western Canada, are distributed between Ontario and Quebec, but they represent a much smaller proportion of production (on average in the order of 10 percent).

There is one other market characteristic that is relevant, the relationship between U.S. and Manitoba corn prices. There are no barriers to importing U.S. corn, there is a virtual infinite supply (relative to demand) within easy trucking distance, and there is a constant supply of grain trucks prepared to load soybean meal and corn at 'backhaul rates" from anywhere along

Table 3. Canadian Grain Corn Imports from the United States, By Region.

| Volume | 1990/91 | 1994/95 | 1995/96 | 1996/97 | 1998/99 | 1999/00 |
|-----------|----------|-----------|-----------|-----------|-----------|---------|
| E. Canada | 6.7 m bu | 31.8 m bu | 21.7 m bu | 20.7 m bu | 20.6 m bu | 25 m bu |

² Data released by Manitoba Agriculture since this paper was drafted indicate that weanling exports in 2002 will show further increase.

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| | | | | | | |
|------------------|------------|------------|------------|------------|-------------|-------------|
| W. Canada | 8.5 | 9.9 | 9.3 | 9.7 | 13.1 | 13.6 |
| Manitoba | 1.2 | 6.9 | 5.8 | 4.7 | 8.3 | 9.4 |

Source: CITT Research Publication dated 1.02.01.

the route between Minneapolis and Winnipeg. Usually not much more organization is required to get immediate delivery of U.S. corn than having the right set of cell phone numbers. *If one ignores the existence of significant direct public support to U.S. corn growers*, this highly integrated, well-arbitrated little market could be said to perform very well in economic terms. Casual analysis and an unpublished AAFC paper conducted for the CITT indicate that Manitoba cash corn prices track very closely those in Minneapolis, both in level and in direction of change. Unusually large supplies of feed quality barley and wheat on the eastern prairies may drive a wedge between Minneapolis and Manitoba corn prices because these markets do not arbitrage as closely as corn, but generally there is a close relationship in these corn prices. Domestic feed wheat, barley and corn prices on the eastern prairies cannot move much above corn equivalent prices without attracting more U.S. corn imports.

This brief description of the prairie corn market illustrates the market environment into which the MCGA imposed their dumping and countervail action in August, 2000 ultimately leading to imports being terminated on November 7 by the imposition of duties. Clearly Manitoba corn growers are minute players in the overall feed and livestock market, and are directly impacted by market conditions in the United States. Their market situation, and the conditions that brought about their trade action, are symbolic of a much larger element of Canadian agriculture. Corn imports into Ontario and Quebec certainly impact on prices there. Indeed, in the final CITT determination, it was reported that subsidization margins were the same across Canada on imported corn.

Further, according to evidence and comments made by Mexican participants throughout our workshops, it is probable that the Manitoba corn situation is also representative of the situation facing many Mexican farmers. Consequently, this trade action, and its outcome, have economic significance far beyond MCGA and the prairie corn market. There are direct and immediate economic effects of subsidization in open markets like this one whether the program is “domestic” as claimed by the U.S. Corn Growers Association, or

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targeted in some other manner.

THE ACTION AND PRELIMINARY FINDINGS

The Canadian Customs and Revenue Agency (CCRA) has the responsibility under the SIMA of conducting the preliminary investigation of unfair trading complaints and of making preliminary findings related to imposition of duties. The Canadian International Trade Tribunal (CITT) is responsible for final determination of amount of duties and determining if there is “material injury” to domestic producers. The CCRA investigation, other than geographic scope, was not altered by the fact that this was a “regional” TRL action. The significance of regional rules apply in the second level of investigation, conducted by the CITT, when injury determination is made. At that point, the “all or almost all” (producer) rule applies which severely tightens the evidence on injury, making injury determination much less likely than in an national action. CITT required that more than 90 percent of producers had to be materially injured to meet the regional test. This section provides an overview of how these steps unfolded in the Manitoba corn case.

The MCGA filed an action in August 2000, alleging injurious dumping and subsidization on grain corn exported by the United States for use in the geographic area west of the Manitoba/Ontario border. There were minor exclusions for corn used as seed and for consumer products manufacture but these exclusions are not important in either volume or impact on the case. November 7, CCRA announced the results of its preliminary investigation and imposed dumping (ADD) and countervailing (CVD) duties on U.S. grain corn into the prairie region.

Preliminary Dumping Investigation. According to the rules, *grain corn is dumped when it is sold to importers in Canada at prices which are lower than prices in the United States or when it is sold into Canada at unprofitable prices.* This latter application of the rule is the so-called “normal value rule”. Obviously in economic terms these two versions are very different in substance and in testing. Agricultural economic literature is full of theoretical and empirical evidence that there is no compelling “normalcy” to the notion that prices should be above ‘cost of production’ in any particular, short time period. Nor is there a single “cost of

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production” for a large or even small group of farmers; there is instead an array of costs just as there is an array of market prices at any point in time. Cost of production should not be a consideration in agricultural dumping because farmers have no market power. However, these are the rules and it is the “normal value “ version of the rule that was applied in the corn case³.

The investigation determined that over the previous two years, 45 percent of the corn imports came from Minnesota, 34 percent came from North Dakota and 10 percent from South Dakota. For determination of normal value, ERS data on COP were used, indicating that in 1998 the “normal value” was \$US 2.60/bu., and \$US 2.78/bu. in 1999⁴. CCRA claimed that in aggregate, grain corn had not generated commercial profit in those states in four years. According to their definition, they reported that nearly all corn had been dumped over the period of investigation. *The average dumping margin was determined to be 36 percent which was equal to \$US 1.01/bu. on the “normal” price of \$2.80/bu.*

This stage of the investigation also found that the LDP and MAL programs, Marketing Loss Assistance Payments, and federal Crop Insurance programs constituted subsidization. The estimates were *\$US 0.32/bu. in 1998 and \$US 0.57 in 1999 which represented 33 percent of the weighted average export price.* Applying the countervailing duty rules, this magnitude of subsidization was found to be “significant”. These findings were announced by CCRA on November 7, 2000 and anti-dumping duties and countervailing duties were applied to all corn imported into the prairie region equivalent to **\$US 1.58/bu.** Duties of this magnitude effectively shut down imports of U.S. corn into the region.

On February 5, 2001 the CCRA announced the results of their final investigation, concluding that subsidy and dumping of U.S. corn “**was not insignificant**”, and continued (but slightly reduced) **the combined margin of \$US 1.30/bu.**, composed of \$US 0.63/bu. for subsidization and \$US 0.67 for dumping. As a consequence of this finding, CITT initiated the

³ Throughout our workshops, participants have been critical of the use of cost of production as “normal value”. In this case, corn prices were readily available on both sides of the border, could have been used, and likely would have changed the dumping finding. But regulators appear to avoid this approach. This is one among many examples of how arbitrary administrative rules might swing results.

⁴ At existing exchange rates and all other things held constant, these estimates imply that the corn would be valued at about \$Cdn 4.30 in southern Manitoba.

next stage of the inquiry under the regional case rules into injury or potential injury to “all or almost all” producers on the prairies.

FINAL DISPOSITION

The 2001 Annual Report (March 2001) of the CITT summarizes the major findings, and the final decision and disposition of the Manitoba Corn Case. The Tribunal noted that the injury standard for a regional market is very stringent. The evidence must demonstrate that imported product injured producers of “all or almost all” grain corn in western Canada. The following excerpts are provided almost verbatim but with some reorganization to fit the purpose of this paper and with some wording change to reflect our audience. Comments, presented in relation to the overall objectives of the paper, follow each point.

The Tribunal found that ***dumped and subsidized corn imports from the United States had caused prices of corn sold in western Canada to decline, causing financial injury to many domestic (corn) producers*** (highlighting mine). This conclusion in a **final** report of an trade law administrative agency is somewhat unusual; in national cases it is common at this stage to determine that there was no injury caused to domestic producers, or that the degree of injury was not significant (*de minimus*). When significant injury is found, as this statement indicates, then the conclusion is to ensconce the duties. But this was a regional case and the rules require much more than this level of evidence. Following are the arguments related to determining what proportion of producers were injured.

The Tribunal also reported that there was a certain proportion of commercial production that had not been “materially” injured. The rationale for this conclusion was as follows:

- *“some producers were able to achieve better than average prices for their corn despite the presence of dumped and subsidized imports from the United States”.*

Analytically, this statement is tautological and trivial, unless CITT assumes there should have been one price for corn over the relevant period. That proposition would be taking the notion of Law of One Price (LOP) to the extreme. Clearly in any distribution of market prices, some are

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above, and some must be below an (arbitrarily determined) mean. This wording also suggests that market organization in which producers were paid a flat price (as in a pooled price) would help ensure a finding of injury.

- *“in addition, certain major corn users pay a higher-than-average price for domestic corn because it has qualities or characteristics that may be required in processing”.*

As in any agricultural market, all product is not perfectly substitutable; some product may have added value for some purposes, other product, less. But the real question is: higher than what ‘average price’? Clearly according to CITT’s own findings, the answer is ‘an average price that has been reduced by the claimed subsidized and dumped imports’. Alternatively, it demonstrates the total irrelevance of market characteristics in the administrative process that is applied in assessing injury.

- *“It was apparent that some producers were able to achieve reasonable rates of return, even in the 1999-2000 crop year when U.S. import prices were at their lowest levels”.*

First, to an economist this reads much more like a value-loaded assessment than an evidentiary statement. Second, simple logic says that if subsidized and dumped imports had not depressed prices, these particular producers would have had a **higher** rate of return. That conclusion would be consistent with evidence of economic injury.

The dichotomy between CITT (and TRL in general) conclusions and the way economists analyze market results comes about largely because injury in these cases is not determined in relation to the economic losses/costs created by the imports. **The criterion employed is an administrative concept - “material injury”- which means reducing returns below administratively defined cost of production.** That is an extremely restrictive definition, and its application to the broader issue of free trade and gains from trade creates problems. This is one of the fundamental complaints by economists about the application of TRL, and it is particularly troublesome when applied to agricultural markets. There is more.

- *“The Tribunal identified another category of corn grower that was not affected by*

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subsidized and dumped imports in the same way as producers that operate in the commercial market....diversified farmers who have livestock operations and who also grow their own corn for feed.... are able to achieve “certain synergies between their animal and grain operations. The evidence showed that these producers have costs of production that are much lower than the industry average”.

Livestock manure is used a fertilizer, usually on all crops. Cost of production is the critical variable, not corn prices; and even though the dispute is about corn prices, livestock accounts became relevant, i.e., enterprise mix of farmers in Manitoba has become part of assessment of impacts of U.S. crop subsidization. If the livestock aspect of enterprise mix is important, why aren't other feed grains?

- *“On-farm users are also effectively insulated from most market price fluctuations”.*

Although some of these cases consider price variability contributions of imports, I saw no reference in the documents about that being a criterion in this case. Fluctuations in prices are not levels of prices. Second, this argument applies only if corn has no opportunity value which is certainly not the case - corn in southern Manitoba very decidedly has a market price, and it is readily available. In fact, CITT had time series data used in their analysis. The impact of subsidized and dumped corn imports on **all** livestock producers in the area was not considered. Only if the CITT had recommended continuation of the duties and a third stage of the investigation had been initiated to explore the “public interest” aspects of the duties, would the interests of all livestock feeders been considered.

- *“Finally, corn grown for on-farm feed use was a significant and growing part of the western Canadian corn growing industry, comprising as much as 30 percent of total production according to some estimates”.*

The implication of this statement, reinforced by feed manufactures in hearings and the U.S. Corn Producers in discussion comments on this paper, is that injured corn producers would not increase acreage. There are several reasons for expansion in corn acreage, not the least of which are the removal of freight subsidies and the increasing impossibility in Manitoba to economically produce wheat or barley for feed because of increase in (fusarium head blight) disease. Corn growers, like any other prairie farmers, make their production decisions in the face of many factors. In this region those factors include rotational considerations, growing

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marketable feed, and an assessment of relative (not absolute) profitability of corn, cereals and oilseeds. All of these options, including corn, are influenced by field crop production in the United States because U.S. production has a direct impact on Canadian prices.

There is an absence of any consideration of some of the most basic economic principles (opportunity cost and value, arbitrage, relative profitability) and of market realities (array of market prices, array of production costs) in the CITT arguments. That certainly implies that the conclusions are lacking in accepted economic analysis. This conclusion arises as a result of application of administrative rules for determining material injury. The rules are applied in absolute terms and they are administrative estimates of conditions which may or may not exist. In addition, the application of regional rules are firm/enterprise specific, not product specific.

This latter observation has very important implications. If, for example, two separate regional corn cases were brought in Canada, one in a strictly mixed farming area (say Quebec) and one in a strictly corn monoculture area (irrigated southern Alberta), the same subsidization and dumping margins could produce injury (and permanent duties) in one region (Alberta), and nothing in the other region (Quebec). This polar- extreme finding would turn strictly on the organization of farms (enterprise mix). Attributing positive economic performance to this kind of public policy might be difficult. And a final point: the rules as they were applied in this case might also have been used on the interrelationship between corn and other feed grains as there are likely potential and real “synergies in corn/barley/wheat production combinations”, especially under the disease conditions of crop production in Manitoba. If this relationship had been examined, it would have produced the opposite conclusion to livestock because depressed corn prices mean all feed grains in the area are depressed.

The CITT main conclusion on injury was as follows:

Thus, while many domestic producers that sold their corn on the commercial market had been [materially] injured by the subject imports, when the non-injured production represented by on-farm use was combined with the portion of commercial sales that had achieved reasonable returns, there was little doubt that the “all or almost all” injury threshold had not been met in this case.

The duties were removed, effective March 7, 2001 and imported corn began to flow again.

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CITT CONCLUSIONS AND SOME OBSERVATIONS

The inquiries by CCRA and CITT, the dual trade remedy agencies in Canada, concluded that subsidized and dumped U.S. imports reduce corn prices on the prairies. That was not a major revelation to market observers because U.S. subsidies are reducing all crop prices on the Canadian prairies. What may have been a revelation was the magnitude of the subsidization and dumping margins. The combined margin was originally determined to be \$US 1.58 per bushel in the preliminary investigation, then revised to \$US1.30. These are large margins, both in absolute and relative terms. The trading price on corn in southern Manitoba in late 2000 was around \$Cdn 2.80 or about \$US 1.80 per bushel. These duties cut off the supply of U.S. corn for feed.

Leaving aside for the moment the issue of accuracy of the margin estimates, in economic terms the price effect of U.S. imports on the corn market in the prairie region is the critical issue, given that those imports reflect a heavily subsidized production system. Casual analysis of adjustment in futures and cash prices when the duties were imposed in November 2000, and their subsequent levels, suggest upward movement of \$10-20/tonne on local corn, feed wheat and barley.⁵ Certainly the impact extended beyond Manitoba. If the dumping margin had been determined by direct use of reference prices and found to be small or zero, the subsidization impact would still have been significant in economic terms.

Imposition of duties and cutting off imported corn threw the feed market in the intensive livestock area of Manitoba into major confusion and uncertainty. Hedges on corn were

⁵ To put these numbers in perspective, an average \$Cdn 15/tn for barley, wheat and corn represents between 30 and 40 cents per bu. That further represents between \$20/ac. to \$35/ac. for producers in southern Manitoba at conservative yields, with corn being the larger amount because of its absolute yield advantage. Most producers in the area would be satisfied to receive a costless increase in net return, and even half the official margins over total costs would be extremely positive in terms of farm health. In economic equilibrium with free trade and no U.S. subsidization, these amounts should be larger because U.S. corn prices would be higher. Of course, this would create the undesirable spin off of rising land prices on the Canadian prairies!

immediately rendered useless; forward buying of feed became uncertain; feed costs rose unpredictably; and the market area for feed was extended further westward contributing to higher freight costs on feed grain. These are not trivial outcomes and it is not at all surprising that there were strong opponents in the livestock and feed sectors to the duties. In November and December, 2000, holding a long cash corn position in Manitoba was a decided asset for livestock feeders, a feedlot or feed mill operator, or a grain dealer. However, a long cash corn position for members of the Manitoba Corn Growers Association produced some symptoms not unlike being declared infected with a serious communicable disease⁶.

Table 4 summarizes some of the impacts of these trade actions, and how the costs and benefits of the actions were distributed. The categories of costs and benefits are defined in relation to economic considerations and in terms of criteria deduced from objectives of free trade agreements. Without conducting quantitative analysis, it appears that these actions produced a negative sum game outcome⁷.

In my view, the Manitoba corn case has the markings of a seminal case in the application of trade remedy actions as a solution to agricultural trade disputes:

- the estimate of the combined subsidization and dumping effects was incredibly large, representing in the order of 90 percent of the trading price in the affected area. The estimate was conducted in accordance with usual administrative rules, and was not seriously challenged in terms of accuracy⁸. A subsidization/dumping valuation of the magnitude determined is very unusual in NAFTA agricultural cases.
- the finding of no injury and termination of the countervailing and dumping duties

⁶ These impacts of the imposition of duties reinforce the comments made by two bankers at the workshop indicating they are reluctant to lend to firms subject to trade actions.

⁷ Loyns, Young and Carter (2001) reported the same result in the 1998 R-CALF case.

⁸ At a similar conference to this one in Chicago in August 2001, Carole Goodloe criticized the administrative approach to determining dumping margins in the Manitoba corn case. Her comments were directed at the process of determining dumping margin, not its application in this particular case. That is the perspective that is intended in this paper as well.

turned on the "regional" (as opposed to national case), rules. CITT described the rules as being very "stringent" which is an accurate description. Those rules require that "all or almost all" of grain corn production in western Canada was injured. Apparently a 90 percent rule was applied. The corn growers case missed that threshold, according to the methods used to calculate injured producers, by a small amount.

This finding of no injury has a very significant implication: it seems that an already extremely high estimated margin could have been double, triple or even more, and the same lack of injury would be determined. In situations where a region has some production, it is contrary to economic logic that injury is not related to the magnitude of subsidization and

Table 4. Descriptive Summary of Costs and Benefits of the MCGA Action on U.S. Exports

| Factor | Bearer | Prairie Region | U. S. |
|--|---|--------------------------|-----------------------------|
| COSTS: <i>Process</i> | Producer Assn. Govt TRL Agencies | some federal | very small small some |
| <i>Corn Acquisition</i> | Dealers Lvsk. Feeders | | 0 0 |
| <i>Trade Relations</i> | Corn Producers Fed Govts Prov/State Govts | damaged improved 0 | ? improved 0 |
| BENEFITS: <i>Corn Price</i> | Corn Producers | short term | almost 0 |
| <i>Feed Wht/Bly Price</i> | W/B Producers | short term | 0 |
| <i>Reduce subsidization</i> | | n.a. | no |
| <i>Reduce dumping</i> | | n.a. | no |
| <i>Remove Irritant</i> | | no | n.a. |
| <i>Create Freer Trade Environment</i> | | no | no |
| <i>Improve Economic Efficiency</i> | | no | no |

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| | | | |
|----------------------|--|-----------------|------------------|
| BALANCE SHEET | | NEGATIVE | NO CHANGE |
|----------------------|--|-----------------|------------------|

Source: Compiled by author.

dumping. In fact, a reasonable economic hypothesis would be that injury is directly related to the level of the margin through price and the level of market integration. These particular markets are highly integrated because there are no trade barriers beyond the differential subsidization levels.

- the injury arguments posed for the finding of less than “all or almost all “ production were wrong in several economic and market analysis terms. They ignore opportunity cost/value, arbitrage, relative profitability and enterprise accounting principles; they lead to the absurd implication that if all corn produced in western Canada were fed on-farm there would be no subsidy and dumping impact, and no cause for action. In other words, the supply curve is deemed to be perfectly inelastic.

In terms of domestic issues, this case typifies the inherent Canadian tendency in agricultural policy matters to promote divergent and counterproductive interest representation based on regional and commodity lines, to the point of inhibiting policy development and collective gains associated with promoting “national interest”⁹. The intervention by the livestock and livestock feed sector on the prairies, particularly in Manitoba, successfully defended the status quo of accepting subsidized imports. At the same time, because of subsidized grain markets in the United States, the competitive (not comparative) advantage in livestock production is moving toward the northern tier states, away from the Canadian prairies where reduction of a major subsidy (freight for grain exports) had created comparative advantage. This situation demonstrates the serious dilemma for livestock producers and the entire feed/feeding sectors in Canada in the face of U.S. crop subsidization. They are forced to be U.S. competitive on feed costs in the livestock sector, but the level of subsidization south of

⁹ Dr. Hartley Furtan observes in a recent book on agricultural policy in Canada that, because of regional, commodity and distance characteristics of Canadian agriculture, we may be unmanageable in a policy sense. (Personal communication with the author). There are innumerable examples of interest group posturing and government indecision that support this hypothesis. The outcome of this case certainly does not reject the hypothesis.

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the border has created the situation where that objective, relative to normalized market conditions, cannot be achieved. Accepting subsidized corn from the United States reduces the risk of becoming even less competitive, at the same time increasing economic costs associated with distorted markets.

Similarly the relationship between corn growers in Manitoba and in Ontario has been fractured by this action. Ontario corn producers fought one of these battles in the 1980s and decided they didn't want another one. In the meantime they have apparently secured public support for corn processing plants in the province which implies motivation for a 'harmonious' corn market in that province. In order to head off a second, national trade action, the Ontario corn growers passed a motion that they opposed such a trade action, effectively killing the prospect of a larger, more visible, and potentially successful initiative. Despite the reality (and the CITT finding) that the U.S. subsidy impact extends across Canada, corn grower interests appear to be different between eastern and western Canada vis á vis subsidized imports. Nor did any other crop interests make the connection between this case and their market prices.

Combined, the role of the Ontario corn growers, and the prairie livestock and feed sectors, provided the public image that subsidized and dumped corn from the United States is necessary to our economic existence, and that these matters are acceptably determined entirely south of the border. The manner in which the federal and provincial governments approached this action (there were no visible statements, analysis or positions put forward by either level of government) reinforces this implication.

On the matter of overall U.S./Canadian trade relations, this case probably did not even count. U.S. producers, other interest groups, and governments did not intervene in the process. Non-representation of "aggrieved" parties in a trade dispute may be precedent setting and it may imply that what occurred behind the scenes was much more important than the transparency of processing the action. In production terms, even though the situation is representative of a much wider set of producers, this action was small enough and isolated enough to be immaterial¹⁰.

¹⁰ A reviewer of this draft observed that regional rules must be much tighter than in national cases to prevent repeated small group, harassment-type cases. While there is some substance to that

At the government-to-government level (United States and Canada), this case likely had a small positive contribution to U.S. /Canada relations. That ironic outcome results from fact that U.S. crop subsidization and its effects on prairie crop economics did not get much exposure from the case. Had the case gone to the next level of public interest hearings and the issue of dealing with semi-permanent loss of corn imports, greater attention would have focused on these issues. The action did not, probably could not, address the relationship across the feed market on the prairies of US. corn, wheat and soybean subsidies but those relationships do exist. From the standpoint of farm enterprises, the U.S. crop subsidies are more important in the grains sector than they are in the livestock sector. In economic, free trade and policy harmonization terms, this isolated, relatively innocuous case involving a virtual handful of Manitoba corn growers, taking a position against the entire U.S. corn production system, had enormous symbolic importance which did not come through. It pitted Manitoba corn growers against the Canadian livestock and commercial feed sectors: U.S. subsidies won.

In the end, this case, like so many others, challenges one of the primary dispute resolution mechanisms being used among the NAFTA partners to settle policy and trade differences in agriculture. In an upcoming book from the Center for Agricultural Policy and Trade Studies at NDSU (forthcoming, 2002), Jabara and Reeder of the USITC make the point that NAFTA was never intended as a "free trade" arrangement, rather it was intended to promote greater trade among the three countries and achieve deregulation in some sectors. Assessed within that context, undoubtedly NAFTA has achieved considerable progress. In fact, addressing that issue was the purpose of the 2000 Policy Disputes Information workshop, and the results of the workshop supported this conclusion (Proceedings,2001) as have several others. Trade has increased and there has been major improvement in the terms of trade in many areas.

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argument, harassment is certainly not only a characteristic of small groups; governments may even be involved. (Stiglitz, 1997). The point is, this instrument is simply not suited to the task. The logical starting point for reform when a "free trade" agreement exists is within the agreement. Ron Knutson and Loyns presented some observations on that argument in a paper on a "NAFTA Policy Leadership Commission". (included in this set of papers).

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The purpose of this paper and other case studies in the workshop was to examine how trade remedy laws are applied and how they contribute to resolution of trade disputes: are trade actions under domestic TRL positive or negative contributors to longer term freer trade and trade harmony among the NAFTA partners? My conclusion from reviewing the Manitoba case, and others we have done in the past, is that ***in economic terms, trade remedy laws do not fit the problem, and their application is not contributing to more even terms of trade***¹¹. They are costly, they are divisive, and there is not much evidence that they effectively resolve trade and policy differences. Non-economists can argue that conclusions like these are reflective of a profession which is “not in the game”. Certainly economics is not the only relevant discipline. However, free and increased trade are institutional arrangements which are grounded in economic principles. Unless one believes that free trade agreements are a form of formalizing a leadership-followership association, they are signed because the parties expect net economic benefits from their existence. When trade agreements designed to accomplish economic objectives are implemented, economic conduct and consequences have to work if the objectives are to be achieved. The purpose of freer trade is not to provide employment to particular categories of administrators and consultants, nor is it to provide a mechanism to allow groups or nations to protect status quo. The politicians and the officials in three countries who negotiated the NAFTA had a vision of the organization of the North American economy for the benefit of their own nations and for the benefit of the region. That organization is certainly grounded in economics, business and more balanced trading relations within the area.

Trade remedy law as it is being applied is not contributing to that vision in the agricultural sector. It is not entirely clear from other papers in this set that the number of trade disputes is increasing under NAFTA. However, it is clear that there are some disputes processed under TRL that are caused by increased trade because of NAFTA, and there is clear evidence that TRL application is costing some NAFTA sectors significant amounts of resources. Certainly the most visible dispute resolution mechanism is application of domestic trade remedy law.

This particular case also demonstrates an important, basic, and growing flaw in the

¹¹ The Stiglitz article (1997) reaches the same conclusion from a more comprehensive review of the application of U.S. TRL.

NAFTA agreement. Canada and Mexico, both significant crop and livestock production sector partners within NAFTA have created “nearly” open borders in crop and livestock commodities and their products¹², but the resulting trade is played out on a field where the dominant partner has been increasing subsidies to field crop producers. Those subsidies impact all the way through crop and livestock production¹³. Given the U.S. support to its producers, there are only two ways to level the playing field and to achieve the economic efficiencies contemplated under “free trade”. The preferred economic option is to achieve balanced subsidization by removing it where it exists - in the United States. The other option is to balance subsidies by increasing them in Canada and Mexico, a solution bearing a host of negative economic consequences. Except for one provincial jurisdiction in Canada, that solution is claimed to be too expensive to be considered by either country. Retaining the status quo produces consequences and distortions like those discussed in relation to this corn action.

This paper and many others have demonstrated that trade remedy law contributions are at best evasive, and at worst counterproductive in settling most agricultural disputes. Clearly they are not tools that may be used to alter subsidy imbalances, particularly those that exist in the North American crop sector. As a result, we have to conclude that a level playing field within NAFTA for prairie corn growers, for most Canadian crop and livestock producers, and for most Mexican producers in these areas is not on the NAFTA agenda, nor is it likely to be. The NAFTA agreement does not even deal with these issues. Some policy analysts, including the discussant on this paper, use this observation to indicate that NAFTA is not part of the problem. That is a line of logic that fits neither my own views or the *raison d’être* of the workshops. From the economic perspective and from the economic evidence that has been generated by these workshops, major changes in both trade and policy dispute resolution are indicated. The executive summary circulated from the 2001 PDIC workshop closed with the

¹² “Nearly” is a key word. The author of this paper is well aware of the lingering impediments to open trade in the crops and livestock sectors, and he is a strong supporter of negotiating them away. In fact, slowly, there is some progress occurring. The issue of crop subsidies in the United States has become a new issue since the NAFTA was put in place, and it is an issue that dwarfs all others in terms of costs and economic significance.

¹³ If there is any doubt about the validity of this statement, consider the ‘adjustments’ that are being made in the new Farm Bill on soybeans, and the movement south of Canadian weanling pigs.

following conclusion...

Currently, there is a shortsighted tendency to protect domestic industries, rather than planning for the long-term benefits to be gained from market integration. (Executive Summary, 2001)

The Manitoba Corn Growers case against imports from the United States demonstrated this proposition yet another time and it demonstrated that Canadian trade remedy law doesn't contribute to resolving major subsidization in neighboring markets. And it demonstrated that, for all its positive contributions to North American trade, NAFTA is of little use in achieving balanced terms of trade in the crops sector.

REFERENCES

- Charlesbois, Pierre and Mitch Wensley. 2000. *An Econometric Analysis of the Manitoba Corn Market*. Unpublished research paper conducted by Agriculture and Agri-Food Canada for CITT. December.
- Canada Customs and Revenue Agency. 2000. *Statement of Reasons and Decision*. 4237-88 AD/1242// 4218-10 CV91. November 7.
- Canada Customs and revenue Agency. 2001. *Canada Customs and Revenue Agency confirms dumping and subsidization of grain corn*.
- Canadian International Trade Tribunal. 2000. *Preliminary Determination of Injury*. October 10.
- Canadian International Trade Tribunal. 2001. *Dumping and Subsidizing Inquiries (Section 42). Findings and Reasons*. NQ-2000-005. March 7.
- Canadian International Trade Tribunal. 2001. *Annual Report*. March 31.
- Policy Disputes Information Consortium. 2001. *Structural Change as a Source of Trade Disputes Under NAFTA: Executive Summary*. Farm Foundation. Oak Brook IL. Feb.
- R.M.A. Loyns, Linda M. Young and Colin A. Carter. 2001. *What Have We Learned From Cattle/Beef Disputes*. Proceedings of the sixth Policy Disputes Information Workshop. January.
- Stiglitz, J.E. 1997. "Dumping On Free Trade: The U.S. Import Trade Laws." *Southern*

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Loyns, R.M.A. "Manitoba Corn Growers Association vs. U.S. Corn Exports (An Application of Regional Market Rules Under Canadian Trade Remedy Law)." In Loyns, R.M.A., Karl Meilke, Ronald D. Knutson and Antonio Yunez-Naude, eds. *Keeping the Borders Open - Electronic Proceedings*. Proceedings of the Eighth Policy Disputes Information Workshop (March 6-9, 2002, Puerto Vallarta, Jalisco, Mexico).

<http://www.farmfoundation.org/policysystems.htm>.

*Economic
Journal*. 64 (2): 402-424.

Tolman, Rick. 2002. *Comments on Manitoba Corn Growers Association Inc. v. U.S. Corn Exports*. March 8.

Version 1.0, 05/15/02, 2:24 PM, 22 pages. All rights reserved by the author.

Loyns, R.M.A. "Manitoba Corn Growers Association vs. U.S. Corn Exports (An Application of Regional Market Rules Under Canadian Trade Remedy Law)." In Loyns, R.M.A., Karl Meilke, Ronald D. Knutson and Antonio Yunez-Naude, eds. *Keeping the Borders Open - Electronic Proceedings*. Proceedings of the Eighth Policy Disputes Information Workshop (March 6-9, 2002, Puerto Vallarta, Jalisco, Mexico).

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APPENDIX

Table A.1 Canadian Feed Grain Use 1991/92- 2000/01 Averages

| | |
|--------------------------------------|---------------------------|
| CORN: Production | 7.29 mmt |
| Imports | 1.1 mmt |
| Exports | 0.4 mmt since early 1990s |
| Human & Industrial Use | 1.6 mmt |
| FEED WASTE, DOCKAGE † | 6.4 mmt |
| | |
| BARLEY: Production | 12.4 mmt |
| Imports | 0.019 mmt |
| Exports + Domestic Human Con. | 5.5 mmt |
| FEED, WASTE, DOCKAGE † | 6.5 mmt |
| | |
| NON DURUM WHEAT: Production | 21.9 mmt |
| Imports | 0 |
| Exports + Domestic Human Con. | 18.7 mmt |
| FEED, WASTE, DOCKAGE † | 2.4 mmt |

Source: Canada Grains Council, *Statistical Handbook 2001*. The wheat numbers were corrected to reflect 10 year averages. † : the feed, waste, dockage category is a derived residual.

These data indicate that overall in Canada, corn and barley are about equivalent as feed grain sources, and wheat is much smaller but still significant. Over the 10 years, wheat has been declining in production and has been reasonably stable as a feed source. Corn production and imports are increasing. Barley production and use as a feed grain have grown. Feed barley exports from Canada have fallen significantly over this period.