

Grain Transportation Policy and Transformation in Western Canadian Agriculture

**Workshop on Agricultural Policy Reform and Adjustment
Imperial College, Wye, October 23-25, 2003**

Darcie Doan, Brian Paddock & Jan Dyer
Agriculture and Agri-food Canada

Grain Transportation Policy and Transformation in Western Canadian Agriculture

Darcie Doan, Brian Paddock, Jan Dyer
Agriculture and Agri-food Canada

Summary: This paper provides an overview of grain transportation policy in Canada over the last 100 years, including the inception of the Crow Rate, the replacement of the Crow Rate with the Western Grain Transportation Act(WGTA), and finally, the repeal of the WGTA. Particular emphasis is placed on the structural change to the western agricultural economy that occurred following repeal of the WGTA in 1995. When grain transportation subsidies were removed, industry responded quickly to market signals through a diversification of crop patterns, an increase in livestock production, and an increase in value-added processing.

KEY WORDS: Transportation policy, diversification, structural change

1. Introduction

Canada's experience with grain transportation policy reform illustrates two broad principles in the design and implementation of agricultural policy. First, it illustrates the fact that there are important economic gains to reap from designing agricultural policy in such a way that it does not distort market signals. Secondly, it demonstrates the ability of the industry to adapt in response to policy change and to take advantage of new opportunities.

This paper provides an overview of grain transportation policy in Canada over the last 100 years. It outlines the major policy changes that occurred during this period, and places particular emphasis on the structural adjustment that occurred following the removal of grain transportation subsidies in 1995. It also describes some of the challenges associated with policy change, and draws broader lessons for policymakers who are faced with the difficult task of removing distortions in agricultural markets.

2. History of Grain Transportation Regulation in Canada

The Government of Canada became involved in the regulation of grain transportation more than one hundred years ago, with the Crow's Nest Pass Agreement of 1897. The Crow Rate, as it was called, had its origin in the settlement problems faced by grain farmers on the Canadian prairies. In the latter part of the nineteenth century, Western Canadian producers were struggling with a number of hostile elements, including the cold climate, inadequate seed varieties, high prices for farm inputs, and a monopolized railway system that was their only link to international markets (Klein and Kerr, 1996). When the government sought, in the mid-1890's, to provide a massive subsidy to Canadian Pacific Railway for the construction of a rail line through the Rocky Mountains at Crow's Nest Pass, Western Canadian farmers protested. A large subsidy to the railway was politically feasible only if something could be done to ease the hardship that farmers felt the railway imposed upon them. The dilemma was settled with the Crow's Nest Pass Agreement, which offered the railway a subsidy of \$3.4 million, in exchange for which Canadian Pacific (CP) agreed to fix wheat freight rates to eastern export facilities at a level about 20%

lower than that prevailing at the time. CP also reduced rates on westbound settlers' effects, though this rate reduction was not maintained as part of the Crow Rate policy.

In 1925 and again in 1927, the federal government passed additional grain transportation legislation to make the rates statutory, to extend them to the newer Canadian National Railway, and to cover exports of grain and flour through ports on the west coast and Churchill. Over the years, the Crow rates were extended to cover dozens of other crop-based products, including oilseeds, dehydrated alfalfa, and pulses (Klein and Kerr, 1996).

By the late 1950's, statutory freight rates had become non-compensatory. Canada's railways were confronted with a major business problem: the rates they were allowed to charge no longer covered the total costs of transporting grain and related products. The high inflation of the 1970's compounded their problems; in 1977, of the total variable costs incurred by railways, 32% was covered by grain shippers and 18% by federal branch line subsidies, the remaining 50% represented unrecoverable costs (Schmitz, Highmoor, and Schmitz, 2002). The railways responded to these losses by slowing down shipments of grain to terminal locations, and by reducing investments in the maintenance of the grain handling system. The federal government undertook to alleviate this problem by providing branch line subsidies, supplying the railways with 13,000 new hopper cars, and rehabilitating grain lines (Vercammen, 1996). The government realized that grain transportation policy reform was badly needed, but it took time to garner the necessary political support to undertake significant policy change.

Finally, in 1983, *ad hoc* subsidies and fixed freight rates were replaced with the Western Grain Transportation Act (WGTA). The WGTA institutionalized the payment of a subsidy, called the Crow Benefit, to the railways, and increased freight rates to compensatory levels.¹ The Crow Benefit was initially set at \$658 million. Freight rates continued to be set by the government on a cost recovery basis, and a government-appointed board was given the responsibility of ensuring that future increases in rail costs were shared between the railways and Western grain producers. In 1989-1990, the Crow benefit was \$720 million, which covered about 70% of total freight costs with producers paying the remaining 30%.

2.1. Distortions Caused by Transportation Subsidies

Transportation subsidies had a strongly distortionary effect on the Western agricultural economy. Over the 12 years that the WGTA was in force, the subsidy averaged \$15.98 per tonne to Thunder Bay and \$20.98 per tonne to Vancouver. Lower shipping costs raised farm-gate grain prices and encouraged the production of grains for export.

Diversification of agriculture was hampered by the subsidy. By offsetting part of the handling and shipping costs to export markets, the subsidy raised feed grain prices and discouraged livestock production. It also discouraged certain kinds of value-added processing as well as the production of non-qualifying crops, such as potatoes.

Canadian producers responded to the distorted incentives created by the transportation subsidy. During the 1970's when the real costs of transportation were rising rapidly and the real price of regulated grain on the prairie was rising in tandem, a major shift to central and eastern Canada occurred in hog and, to a lesser extent, beef production (Klein and Kerr, 1996).

In an attempt to offset the price distortion caused by the WGTA payment, the Provinces of Alberta, Saskatchewan, and Manitoba introduced subsidies to prairie feed grain users which ranged from \$9/tonne

¹ The WGTA applied to a list of 58 eligible grains, crops, and products.

(Manitoba in 1990-91) to \$21/tonne (Alberta in 1985). All of these subsidies were eliminated in the mid-nineties in response to budget constraints (Kraft and Doiron, 2000).

2.2. Pressures for Change

In 1994-1995, the Canadian government was faced with the challenge of eliminating a very large fiscal deficit, and reorienting its spending toward key growth-oriented priorities. In all departments and at all levels, the Canadian government was in restructuring mode. All Canadians were sharing the burden of budget reductions, and there was public support for reform of government programs to reduce their cost and to better target expenditures toward those who need them most. Insofar as the Crow benefit discouraged diversification and value-added processing, it was viewed by many as a potential impediment to Western economic development. The Crow benefit was scaled back in 1993/94 and 1994/95 as part of the legislation enacted to reduce the deficit. By the time of its demise in 1995, the Crow benefit had been reduced to \$565 million and farmers were paying almost half the cost of transporting grain.

While fiscal pressures at the federal level were largely responsible for the reduction in the Crow benefit, there were also multilateral forces at play that favoured changes to transportation subsidies. New international trade rules negotiated at the World Trade Organization under the Uruguay Round Agreement on Agriculture imposed significant volume and value restrictions on trade-distorting export subsidies. These applied directly to those monies paid under the WGTA to shipments out of the West Coast.

Finally, agricultural policymakers in Canada were cognizant of the need to improve the market orientation of the Western agri-food sector. Economic models developed by Agriculture and Agri-food Canada were used extensively in the early 1990's to assess the implications of reforming the grain transportation system, including the effects of eliminating the grain transportation subsidy or changing the method of payment. It was anticipated that removal of the grain transportation subsidy would create a more flexible and efficient grain transportation system, and that the benefits of increased efficiency would be shared among farmers, shippers, and the railways. Furthermore, elimination of the subsidy would create new economic diversification opportunities for the agri-food sector, particularly in livestock production and processing. AAFC had also been undertaking consultations with industry and producer groups on the future of grain transportation policy. These consultations began before the WGTA was passed, and continued throughout the decade that it was in force. As time passed, producer and industry groups increasingly understood the potential impacts associated with the elimination of transportation subsidies and, with a few notable exceptions, were supportive of change.

3. The Elimination of Grain Transportation Subsidies

The conjuncture of the above-mentioned forces resulted in the opening of a window for long-postponed and large-scale policy change. In February, 1995, the federal government passed the Budget Implementation Act which, among other things, eliminated the WGTA effective August 1, 1995. The repeal of the WGTA eliminated the payment of the Crow benefit to the railways for the movement of prairie grain and related products. Shippers were required to pay the full regulated freight rates and, as a result, freight costs for grain farmers on the prairies increased substantially, doubling or tripling in the 1995-1996 crop year (Schmitz, Highmoor, and Schmitz, 2002).²

Although the abolishment of the WGTA eliminated the subsidy to the railways, the federal government remained committed to setting rates on a cost-recovery basis. The National Transportation Agency was

² These effects were cushioned by high grain prices in the 1995/96 crop year.

instructed to set rates so that they covered 100% of variable costs, plus a 20% contribution toward fixed costs.

To compensate for the drop in land values that was expected to result from the elimination of the WGTA, the government provided landowners with a one-time capital payment of \$1.6 billion, known as the Western Grain Transition Payments Program (WGTPP). The WGTPP was allocated to each western province on the basis of their historical shares of the WGTA subsidy over the 10 years that it was in place (1984/85-1993/94). Also as part of the Act, the government created a \$300 million, 3-year, Western Grain Transportation Adjustment Fund (WGTAf) to ease transition and assist industry to adjust to change. Part of the WGTAf went to assist those producers who were adversely affected by changes to freight cost pooling regime, another part provided compensation to alfalfa dehydrators and compressed hay manufacturers, and the third part (called the Canadian Agricultural Infrastructure Program) went to fund infrastructure on the prairies, largely rural grain roads.

At the same time that the WGTA was eliminated, the federal government announced a fast-track process for the abandonment of prairie branch lines. It also amended the Canada Wheat Board (CWB) Act in order to change the pooling regime for prairie grains. Prior to these amendments, the price for Board grains was identical at the two pooling points, Thunder Bay and Vancouver. This price structure did not reflect increases in the cost of moving grain from Thunder Bay to export position on the St. Lawrence, as well as increases in price of grain at Vancouver, and so the Act was amended to change the point of equivalence to St. Lawrence/Vancouver, rather than Thunder Bay/Vancouver. The result was a lowering of grain prices in eastern Saskatchewan and Manitoba relative to Alberta for most of the Board grains (Schmitz, Highmoor, and Schmitz, 2002).

4. Adjustment in the Agriculture Sector Post-WGTA

The repeal of the WGTA altered the structure of the agri-food sector, and transformed Canadian agricultural production, marketing, and exports of grains, oilseeds, and livestock. Subsidized freight rates had encouraged grain exports and diverted grain away from domestic uses. Removing the subsidies raised producer shipping costs for transport from local elevators to export position. The increase in shipping costs resulted in lower farm gate grain prices and lower rates of return for Prairie grain and oilseed producers (USDA, 2001).

Prairie grain farmers quickly recognized that in order to take advantage of the new opportunities that were created by the repeal of the WGTA, they would have to alter their production patterns. Production on the prairies shifted from export grains to commodities such as specialty crops and livestock. Entrepreneurs also took advantage of lower grain prices by developing the food processing industry on the prairies.

4.1. Diversification of Production

Many analysts anticipated that the removal of the WGTA would favour domestically consumed over export crops, as well as increased livestock production. Crop diversification was expected on three broad fronts: higher valued crops with more domestic processing, more forages and pasture, and feed versus food varieties of grain (AAFC, 2002₁).

Diversification is not without its costs. It is discouraged by single-function machinery, by the development of specialized skills, and by economies of scale in production. Crop diversification may also be limited by soil type, climatic conditions, and distance to market. However, despite these obstacles, significant diversification was observed on the Prairies in the years following the removal of the WGTA.

Crop Diversification

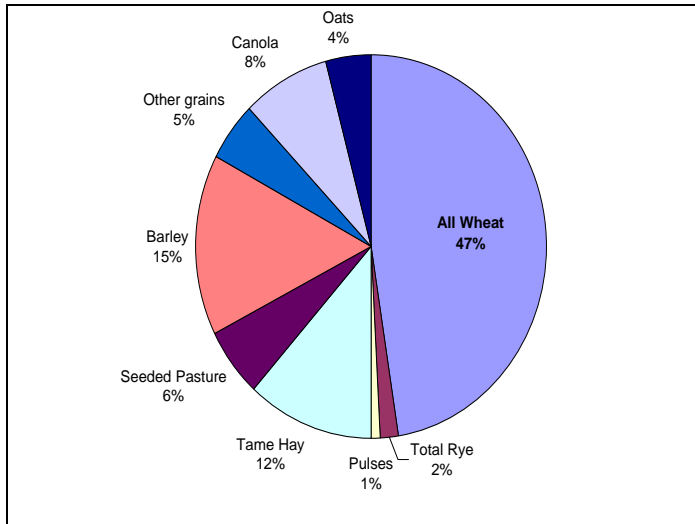


Figure 1: Prairie Crop Area, 1990

Source: Statistics Canada

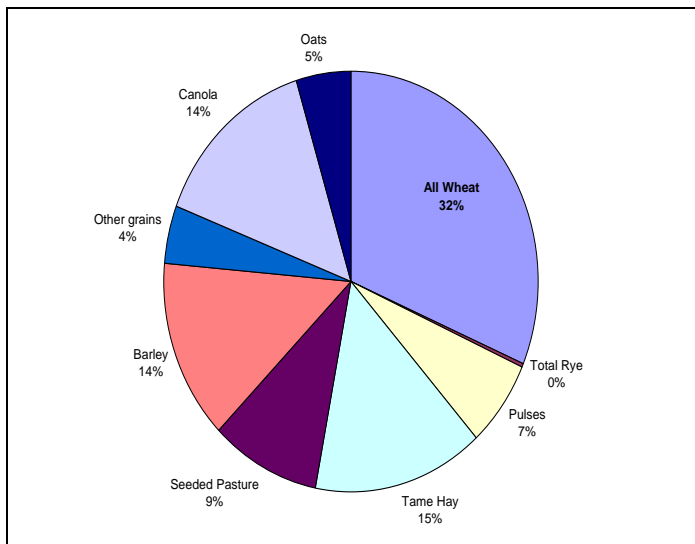


Figure 2: Prairie Crop Area, 2000

Source: Statistics Canada

Diversification away from export grains and toward the production of grain for domestic consumption (including livestock feed) has been significant. Figures 1 and 2 show the composition of crops grown on the prairies in 1990 and 2000, respectively. Over the ten-year period, wheat acreage declined from almost half of all crop acreage (47.4%), to less than a third (31.3%). This was accompanied by substantial increases in the acreage of canola, pulses, tame hay, and seeded pasture. As expected, increased production of high value crops as well as those for domestic processing (canola) came at the expense of wheat acres.

Crop diversification in Manitoba was slightly above the prairie average for the period. There are more diversification opportunities in Manitoba due to higher rainfall and a slightly warmer climate (AAFC, 2002₁).

The increase in livestock production on the prairies resulted in an increased need for feed. Most feed barley now remains in Canada rather than being exported. In addition, the feed share of total domestic barley use increased about 13% post-WGTA (USDA, 2001). Feed use of other grain such as dry peas, canola meal, and soymeal has also increased.

Livestock Production

An increase in livestock production in the Prairie region was widely predicted following the removal of the Crow benefit. Actual increases post-WGTA have, in several cases, exceeded analysts' expectations. The Canadian Regional Agricultural Model (CRAM) was the principal analytical tool employed by AAFC to estimate the increase in livestock production expected as a result of WGTA repeal. It predicted an initial increase of 2% in both hog and cattle production in response to lower feed-grain prices, followed by an additional 7% increase in cattle production once cropland had been shifted into forages (Macgregor, 1995). Predictions for cattle production were reasonably accurate, with cattle breeding stock increasing by 10% between 1995 and 2002 (Statistics Canada, 2002). Most of the increase in breeding stock was recorded in Alberta. On the other hand, predictions for hog production vastly underestimated the transformation that was to take place following WGTA repeal. Hog production on the prairies, as measured by the number of breeding sows on farms, increased by 43% between 1995 and 2002. The vast majority of this increase was observed in Manitoba, where an additional 150,000 head of breeding stock were added to Manitoba farms over the period (Statistics Canada, 2002).

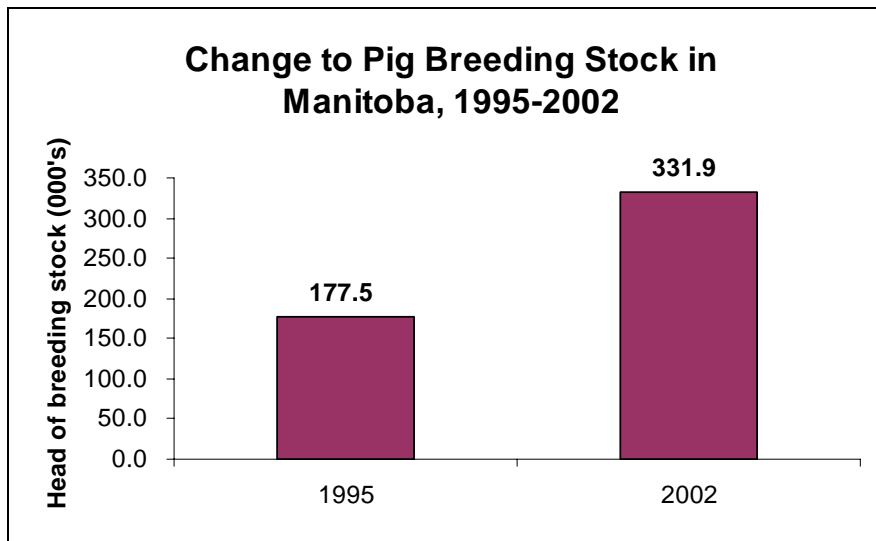
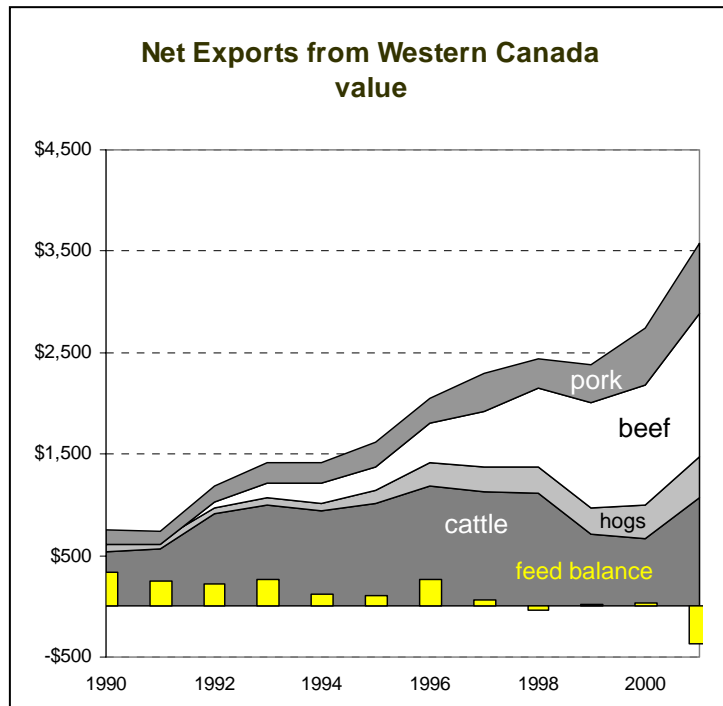


Figure 3: Change to Pig Breeding Stock

Source: Statistics Canada

Manitoba producers are well-placed to take advantage of the changes arising out of the elimination of transportation subsidies. Due to the long distances that separate Manitoba grain farms from ocean ports, the elimination of transportation subsidies, combined with the changes to CWB pooling, caused Manitoba grain prices to drop further than did grain prices in Alberta or Saskatchewan. Feed grains, in particular, have a tendency to stay in Manitoba.

The free trade agreement with the US also helped to spur expansion of livestock production in Western Canada. While Canadian slaughter capacity has increased in recent years, a large proportion of Western Canadian cattle and hogs continue to be exported to the US for feeding and/or slaughter, and approximately half of all meat produced in this country is exported to US markets (Clemens, 2003).³



In Figure 4, the increase in the value of livestock exports from the Western Canada is depicted. Notwithstanding a drop in the value of cattle exports in 1999-2000, the value of livestock and livestock product exports (especially beef) has increased rapidly since WGTA repeal in 1995.

Figure 4: Net Exports from Western Canada
 Source: *Statistics Canada Trade Database*

As a testament to the increased demand for feed resulting from increased livestock production, the feed balance on the prairies has turned negative in recent years, indicating that more feed grain is imported than exported from the region.

4.2. Value-Added Processing and Food Manufacturing

Most high-value food manufacturing is clustered in central Canada (Ontario and Quebec), due to its greater proximity to large Canadian and US markets. However, despite the geographic disadvantage possessed by Western Canada, food manufacturing is the most important manufacturing sector in the Prairie region (AAFC, 2002₂). It was expected that the removal of the WGTA would provide a boost to the prairie food manufacturing industry, and also that there would be a shift in export destinations, with relatively more value-added product going to the US rather than overseas.

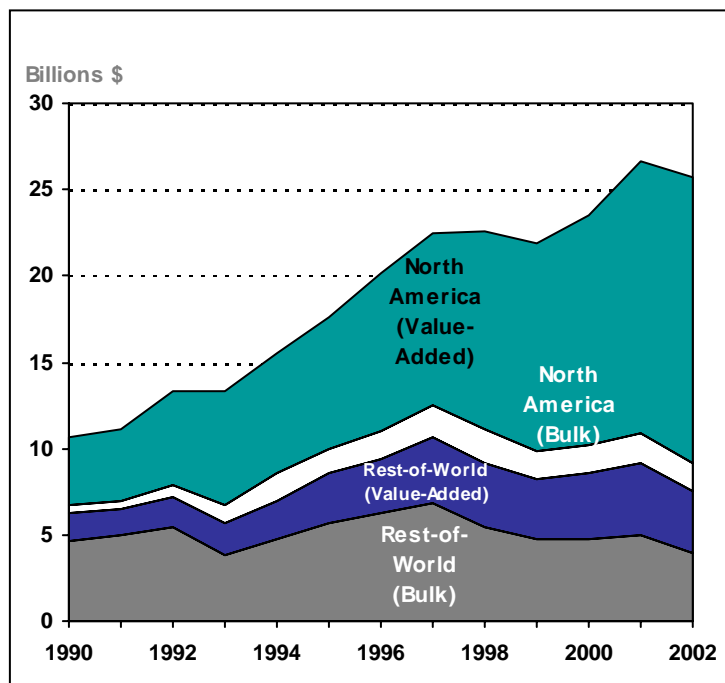
Analysis undertaken by AAFC shows that value-added processing in the agrifood sector has benefited, as expected, from the removal of the Crow benefit. Shipments in the prairie food manufacturing industry increased by 56% between 1990 and 1999. A large proportion of these gains were recorded in Alberta, where meat processing is the largest subsector of the food processing industry. Shipments of meat products from Alberta were valued at \$4.8 billion in 2000, or approximately 57% of total food

³ With the discovery of Bovine Spongiform Encephalopathy (BSE) in a Canadian beef cow in May of this year, everything about this market changed immediately. The Canada-US border closed to exports of live cattle and beef from Canada, and has only recently reopened to exports of selected ruminant products.

manufacturing shipments. Food manufacturing shipments also increased substantially in Manitoba, from \$1.7 to \$2.8 billion between 1990 and 2000. Meat products accounted for almost half of the value of food manufacturing shipments from Manitoba in 2000. Growth in food manufacturing has been more modest in Saskatchewan, where growth in the grain and oilseed milling subsector was above the average recorded for the region as a whole (AAFC, 2002₂). Domestic canola crushing capacity increased about 60% from 1995 to 1998, compared with the 1989-1994 period (USDA, 2001).

4.3. North American Export Orientation

The data supports the assertion that an increased proportion of total value-added shipments are destined for the US. Value-added shipments from all regions of Canada to the US increased from \$7.6 billion in 1995 to \$16.6 billion in 2002 – a total increase of 9 billion, compared to an increase of less than \$1 billion in value-added shipments to the rest of the world over the same period.



North America has become key to the export performance of the Canadian agri-food sector. Repeal of the WGTA along with the Canada-US free trade agreement (1989) and the North American Free Trade Agreement (1995) have enabled industry to take advantage of opportunities in the North American economy.

Figure 5: Canadian Agriculture and Agri-Food Exports, 1990-2002
Source: Statistics Canada

5. Ongoing Transportation Policy Reform in Canada

The critical examination of and reform to transportation policy that was initiated with the repeal of the WGTA did not end in 1995. Canada has continued to make policy changes that are designed to increase the efficiency, accountability, and competitiveness of the grain handling and transportation system (GHTS), and to create a more commercial environment that better serves the needs of grain shippers and their customers.

In December 1997, the Minister of Transport commissioned Justice Willard Estey to conduct a comprehensive review of the efficiency of the GHTS. The report was issued in December 1998 and subsequently a consultation process was initiated to develop implementation details for 12 of the 15 recommendations contained in the Estey report. Arthur Kroeger headed this second consultative process, and his report was issued in September 1999.

On May 10, 2000, the government announced a number of additional measures to reform the GHTS. The two principal changes were, firstly, the replacement of the maximum rate scale for grain shipments with caps on the total annual revenue that each of CN and CP railway can earn from moving regulated grain, and secondly, the introduction and gradual expansion of tendering for CWB shipments. Additional funding for prairie grain roads was also announced as part of the reform package, as were changes in branch line disposition procedures, and an independent Grain Monitor to keep track of system performance.

Ongoing monitoring of the grain handling and transportation system aims to ensure that policy keeps up with changes in this dynamic industry. To this end, five critical success factors have been identified in consultation with industry. These are: commercial accountability, operational efficiency, customer service, producer value, and continuous improvement. The GHTS will be assessed periodically to measure its performance on each of these success factors (Transport Canada, 2003). Should the monitoring identify any problems or opportunities to improve the system further, the government will be in a position to act.

Repeal of the WGTA has been a catalyst for ongoing changes to grain transportation policy that aim to make the GHTS more efficient, accountable, and effective for both shippers and their customers.

6. Conclusion

Agriculture is a dynamic industry. The forces of globalization, industry rationalization, new technology, and changing consumer demand give rise to new challenges and opportunities for industry and government alike. Canada's experience with transportation subsidies demonstrates that the right policy can unleash the potential of the private sector to create new opportunities in response to changing conditions.

Grain transportation subsidies were outdated, expensive, and an impediment to economic development on the Prairies. When these subsidies were removed, industry players responded quickly to market signals through a diversification of crop patterns, an increase in livestock production, and investments in value-added processing.

References

- Agriculture and Agri-food Canada, 2002₁. “Western Grain Transportation Reform and Agricultural Diversification”, forthcoming.
- Agriculture and Agri-food Canada, 2002₂. “Food Manufacturing in the Prairie Region”, forthcoming.
- Clemens, Roxanne, 2003. “Integration in the North American Livestock and Meat Industries” in *Iowa Ag Review*, Summer 2003.
- Klein, K.K. and W. A. Kerr, 1996. “The Crow Rate Issue: A Retrospective on the Contributions of the Agricultural Economics Profession in Canada” in *Canadian Journal of Agricultural Economics* 44: 1-18.
- Kraft, Daryl and Jennifer Doiron, 2000. “Post Crow Influence on Prairie Feed Grain Prices” paper presented at Western Nutrition Conference, September 29, 2000.
- Macgregor, Dr. Robert J., 1995. “Reform of the Western Grain Transportation System” paper presented to the Organization of Saskatchewan Applied Economic Research, Saskatoon, Sept 19-20, 1995.
- Schmitz, Troy, Tim Highmoor, and Andrew Schmitz, 2002. “Termination of the WGTA: An Examination of Factor Market Distortions, Input Subsidies and Compensation” in *Canadian Journal of Agricultural Economics* 50: 333-347.
- Transport Canada, 2003. “Monitoring the Canadian Grain Handling and Transportation System” available on the web at:
www.tc.gc.ca/pol/en/report/grainmonitoringprogram/ghts_executive_summary
- USDA, Economic Research Service, 2001. “Canada’s Agriculture: 5 years after the end of transportation subsidies” in *Agricultural Outlook*, May 2001.
- Vercammen, James, 1996. “An Overview of Changes in Western Grain Transportation Policy” in *Canadian Journal of Agricultural Economics* 44: 397-402.