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AGRIBUSINESS MANAGEMENT

FREE TRADE AGREEMENT BETWEEN US. AND CANADA: STATUS FOR RED MEATS AND GRAIN

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The United States-Canada Free Trade Agreement (FTA) became effective on January 1, 1989 culminating a negotiation process begun in late 1985. The FTA is a natural outgrowth of the broadening economic interdependence between the U.S. and Canada that share the world's largest two-way trade relationship. The FTA provides a framework for trade growth into the next century through elimination of both tariff and non-tariff barriers.

Close cultural and historical ties between the United States and Canada have not prevented the proliferation of trade barriers. By enacting the FTA, both nations acknowledge the economic inefficiencies caused by the build-up of trade barriers including quotas, import licenses, commodity support programs, labeling requirements, packaging specifications, and pharmaceuticals rules. Eliminating these restrictions holds the greatest potential for increasing the flow of agricultural commodities between the two nations.

Although the aggregate impact of the FTA on agriculture is expected to be positive in both nations, agricultural production, marketing, processing regions, and industry segments will not be evenly benefited. To examine the effects on agribusiness, a recent study was conducted to analyze the impact of the FTA

on red meat, livestock (fed beef and market hogs), and grain production and marketing regions in the U.S. and Canada. The U.S. was divided into seven major production and consumption regions and Canada into east and west (Figure 1). The focus of the study was to identify whether producers and consumers would benefit or suffer after the FTA went into effect.

A secondary objective was to determine the changes in production, processing, and trade flow patterns for major crop and livestock commodities that are competitively produced in the two nations. These include fed cattle and beef, market hogs and pork, corn, wheat, canola, and soybeans.

A quadratic mathematical programming model was used in this study. Inputs for the model included regional cost data for grain and livestock production, livestock processing, and raw and final product transportation. Regional pork and beef demand data were also incorporated as determinants of trade. Crop yields, feed rations, and dressing percentages for market hogs and fed cattle slaughtered were used to convert raw and semi-finished inputs into final products; that is, converting grain into feed, livestock production, and meat products.

The mathematical model was solved for three scenarios:

- The first solution was for 1987, a pre-FTA base period. Since this solution accurately replicated 1987 U.S. and Canadian grain and livestock production and trade relationships, output from the model was judged to be accurate.

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- The second solution analyzed the short-term impacts of the recently negotiated FTA.
- The third solution analyzed the potential long-term impacts of the FTA assuming that all trade restrictions between the U.S. and Canada were eliminated. The short-term and long-term impacts of the FTA, relative to the base model solution, are outlined below, and are reported in Table 1.

SHORT-TERM IMPACTS OF THE FTA

Two trade restrictions will be eliminated during the implementation phase of the FTA. First, tariff rates on grains, livestock, and meat shipments between regions of the two nations will be abolished. Second, Canadian transport subsidies on grain shipments originating in western Canada and destined for the U.S. will also be removed.

Based on these negotiated changes, market hog production could decline by more than 50% in eastern Canada, while fed cattle production could increase by more than 90% (Table 1). The additional cattle output is likely to be processed into beef eastern Canada and then shipped to the northeastern U.S.

Offsetting the production changes in eastern Canada, hog production increased in the north central region of the U.S., but cattle production declined. Further, the added pork production of the north central region will be shipped to the northeastern U.S. pork demand region, thereby displacing shipments traditionally made from eastern Canada. Southeastern states continue to produce hogs and ship pork into the northeastern U.S.

Beef shipments from the plains region to meet western U.S. demand were relatively unchanged compared to the base period. Similarly, pork shipments to the western U.S. region from the north central U.S. region were unaffected by the short-run FTA provisions. Regional grain production did not change relative to the production pattern generated from the base model.

Except for the north central U.S., producers as a whole benefited because land values

increased marginally (1.4%) in all U.S. and Canadian regions. Land values increased because feed grains became more valuable in response to the new mix of livestock enterprises in the selected regions.

Like producers, consumers as a whole may benefit marginally (less than 1% increase) from the changes in the short-term FTA agreement. However, the degree of consumer benefit varied across demand regions. Due to modestly higher meat prices, consumers were worse off in both Canadian regions and in the northeastern U.S. Consumers in the western, midwest, and southern U.S. were better off because of lower meat prices.

The observed changes in benefits are small, so it is questionable whether the negotiated FTA will have any noticeable effect in the real world. Such a finding would be consistent with prior arguments published in other outlets.

POTENTIAL LONG-TERM EFFECT OF FTA

All identified non-tariff trade barriers were eliminated for this analysis, and only competitive market forces governed the flow of commodities among regions. Examples of the trade barriers eliminated included the Canadian Import Licensing requirements for grain shipments originating in the U.S., Section 22 quota threats of the U.S. Agricultural Adjustment Act of 1933, all countervailing duties on corn and hogs, feed freight assistance programs, and the transportation subsidies on export grain originating in western Canada. Also in this model, cropland acreage was increased 10% above base levels in all grain production regions to represent harmonized domestic commodity support policies between the U.S. and Canada.

In Canada, total fed cattle production increased by 138% relative to the base period. As expected fed, cattle output increased in western Canada, which shipped beef to the western U.S. demand region replacing shipments of beef from the U.S. plains. Canadian market hog production

declined by nearly 50% relative to the base year, yet Canada remained self sufficient in hog production.

In contrast, U.S. cattle production declined about 6% and hog production increased by 22% relative to the base year. In the U.S., the north central region produced all hogs raised, thus eliminating production in the southeast. Therefore, pork was shipped from the north central region to all other U.S. demand regions including the western region (Table 1). As anticipated from trade theory, specialization occurred.

Specialization in grain production also occurred. Each nation had an adequate supply of feed grains to meet both existing grain demands and the increase in demand for feed by hog producers. Because of the 10% increase in total acreage and the FTA effects, the crop production mix changed in all regions, fallow acres appeared in some regions, and imputed land values declined. Under the assumptions of this scenario, about 13 million acres of land were idled in the southeast U.S. region, 4 million acres idled in the U.S. plains region, and one million acres idled in western Canada. Moreover, the north central region increased its concentration on wheat, corn, and soybean production relative to the levels for the base and FTA models. Eastern Canada specialized in barley production and produced less corn relative to the base and FTA models.

When summed for the two nations, aggregate consumer benefit increased by about 24% relative to the pre-FTA levels, which is consistent with existing trade theory expectations. Also, the percentage increase in consumer benefit (relative to the base model) was nearly equally distributed across all regions. Therefore, one region did not gain at the expense of others.

In contrast, and as expected from theoretical models, producers were worse off as land values declined. This occurred because: the imputed values of grains declined as a more optimal combination of livestock and grains were produced in the two countries; tilled acreage in the two countries was permitted to

increase by 10%. Since some of this land was fallow, land values declined.

CONCLUSIONS

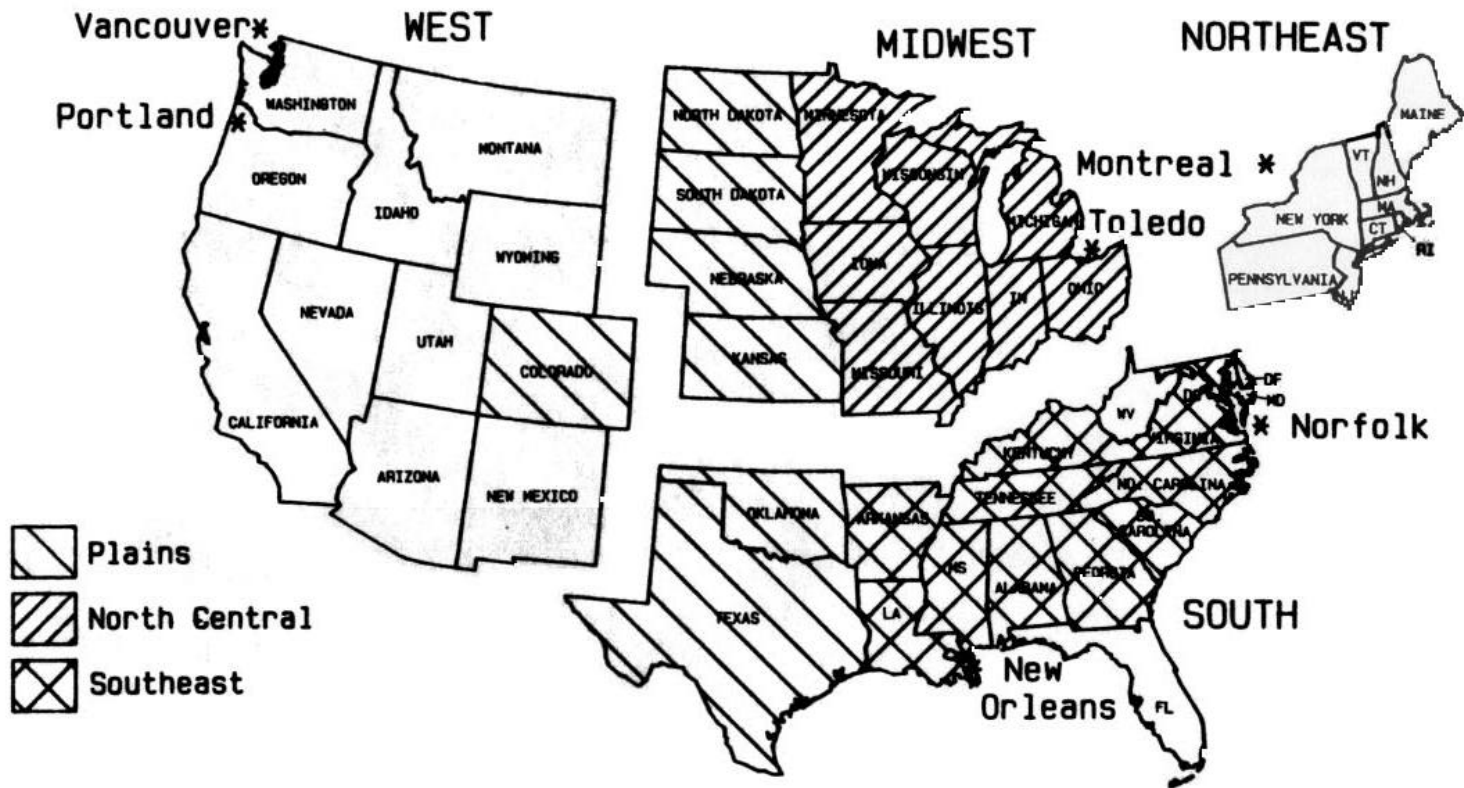
The Free Trade Agreement between the U.S. and Canada will cause agricultural production in the two countries to become more specialized. However, specialization will not occur rapidly. Initially, only tariff restrictions on livestock commodities will be eliminated by the FTA. This change may allow beef producers in eastern Canada to effectively compete with north central U.S. beef producers to supply meat to the northeast U.S. The north central region may be compensated for the potential decline in beef shipments by shipping more pork into the northeast. In the short-term, specialization in grain production will not occur in any single region. Further, both consumer and producer welfare measures increase only modestly. Thus, organized resistance to the initial provisions of the FTA from producer or consumer groups in either nation is highly unlikely.

The anticipated long-term provisions of the FTA will precipitate many changes. For instance, greater regional specialization is expected in both livestock and grain production. Beef demand in the western U.S. may become dependent on beef produced and processed in Western Canada as a result of the long run changes under the FTA. Resources will be reallocated within the grain and livestock production and processing industries for many of the regions. Additionally, some land may be idled in the plains and southeastern U.S. regions, as well as western Canada. Eastern Canada appears to effectively compete with many U.S. regions in producing and processing livestock and grain products. Ultimately, these changes could trigger resistance to the trade liberalizations by producer groups whose resources are being reallocated.



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Figure 1: Production and Demand Regions for the U.S. and Export Ports for the U.S. and Canada



1. Regions of Pork and Beef Demand include west, midwest, northeast and south.
2. Regions of U.S. grain production represent the plains, north central and southeast
3. Regions of U.S. hog production and pork processing included the North Central crop region as defined above plus portions of South Dakota, Nebraska and Kansas and Southeast excluding Louisiana, Mississippi and Maryland
4. Regions of U.S. beef production and processing were specified as West, including Washington, California, Idaho and Arizona; North Central including Minnesota, Iowa, Illinois and Indiana; Plains as specified for crop production excluding North and South Dakota
5. Grain Export Points are shown by a *

TABLE 1: Production & Shipments of Pork & Beef, Base, Short Term F.T.A. and Long Term F.T.A. Models

BEEF			
REGION	BASE – PRE F.T.A.	MODEL SOLUTIONS	
		Short Term – F.T.A.	Long Term – F.T.A.
		(000,000 lbs.)	
<u>North Central</u> to:			
Eastern Canada	0	0	911.7
Western Canada	0	0	0
Northeast	4,919.5	3,434.9	5,430.7
Midwest	8,298.5	8,301.5	9,155.8
South	5,832.4	5,834.5	3,900.6
<u>Plains</u> to:			
West	4,246.8	4,245.6	0
South	0	0	2,536.9
<u>Eastern Canada</u> to:			
Eastern Canada	1,633.9	1,631.6	870.3
Northeast	0	1,486.3	0
<u>Western Canada</u> to:			
Western Canada	663.6	660.6	722.4
West	635.7	638.8	5,393.3
PORK			
<u>North Central</u> to:			
Eastern Canada	0	0	0
Western Canada	491.6	491.6	0
West	3,020.3	3,021.7	3,448.3
Northeast	0	1,279.0	3,480.8
Midwest	5,160.7	5,163.2	5,881.3
South	3,360.0	3,621.4	4,128.1
<u>Southeast</u> to:			
Northeast	1,513.9	1,773.6	0
South	259.7	0	0
<u>Eastern Canada</u> to:			
Eastern Canada	1,228.3	1,226.1	1,378.5
Northeast	1,434.9	0	0
<u>Western Canada</u> to:			
Western Canada	0	0	556.0