
AGRICULTURE, TRADE AND STRUCTURAL POLICY UNDER NAFTA AND WTO

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INTRODUCTION

Last year's conference examined "harmonization, convergence and compatibility" of the agricultural policies of the NAFTA countries (Loyns et al, eds. 1997). Some, though not complete, progress was made towards achieving a common understanding and usage of these concepts. This year the subject is "economic harmonization." What do we mean by this? In this paper, it is taken as an abbreviation for "economic integration and policy harmonization."

Discussion in the workshop and papers to this point has focused on structural adjustments occurring in the Mexican, U.S. and Canadian grain-livestock subsectors, with some reference to their causes, and to their implications for international competitiveness, in each case. Technological change, market changes and policy changes are all seen as major determinants of structural change in the agri-food industry. We believe it is important to recognize the simultaneous relationship between structure and policy: Structural change can influence policy, while policy is also a determinant of the economic structure of industry.

Our task, with the focus restricted to the grain-livestock subsectors, is to build on the outcome of last year's workshop in identifying the major issues surrounding, and opportunities for, policy harmonization among NAFTA countries, and to say something about the implications of these for further structural changes in these agri-food sectors.¹ The most fundamental issue, addressed first, is whether policy harmonization is necessary or desirable. We conclude that it is both. Our subsequent sections briefly review progress to date with policy harmonization, point to institutional factors which will continue the drive toward greater harmonization in coming

¹For the purposes of this workshop, we take "grain-livestock" to exclude dairy and poultry/eggs, and to include oilseeds.

years, identify opportunities for further harmonization, and discuss the implications of coming structural changes in the grain and livestock sector for the policy harmonization agenda. Our major conclusions complete the paper.

The concept of international policy harmonization, while more prominent in recent years, is not that new. A general recommendation of the Canadian Federal Task Force on Agriculture in 1969 (p.60) was that "domestic farm policy must be made consistent with changing international developments".²

WHY PURSUE POLICY HARMONIZATION?

Global economic integration is proceeding irreversibly, driven by technological change (particularly in communications and transportation), the removal of impediments to international capital flows and to trade in goods and services, and the evolution of international standards, global monetary markets, and multinational enterprises. Regional economic integration can be expected to proceed even faster. These developments imply a gradual loss of national economic sovereignty, and a growing need for cooperative management of the international economy (Bonnen, et al). They should be taken as givens, unable to be reversed by unilateral actions of any country, even the United States.³

Government attempts to regulate the operations of multinational enterprises in their own territory can result in the relocation of their activities elsewhere. Furthermore, when consumers' welfare doesn't seem to count for much politically, and when producers' surplus may accrue to owners or shareholders in other countries, analysis of whether a country's own interests lie with one or another policy option becomes increasingly blurred. Much of our existing economic welfare and trade theory seems to be falling behind reality in this respect.

Recent years have witnessed processed products comprising a growing proportion of international agricultural product trade. In contrast to global commerce in agricultural commodities where trade dominates and foreign direct investment (FDI) is small, FDI is the dominant form of international commerce in processed foods. In one sample of 144 food processing firms worldwide, sales from foreign affiliates exceeded exports from home countries by a ratio of 5 to 1 (Henderson et al, 1996). The (U.S.) Council for Agricultural Science and Technology (CAST) reported in 1995 that the 20 largest U.S. food sector multinationals were 14.7 times more likely to reach a foreign market through a foreign affiliate than through exports from the United States. West and Vaughan (1995) examined bilateral U.S./Canada food and beverage trade and found similar though less dramatic numbers. The latter also noted that a substantial portion of Canada's trade (55 percent of imports; 35 percent of exports) is intra-firm trade.

²Interestingly, that same Report also recommended, more specifically, that "the primary trade goal of Canada should be to negotiate a free trade Continental Market with the United States for livestock and livestock products, feed grains, oilseeds, potatoes and some fruits and vegetables." Food grains, and other commodities, were apparently seen by the Task Force to be excluded from such an arrangement.

³We do not mean to imply that we think it is likely that the U.S. would in future decide to pursue such a reversal.

New theories of trade under conditions of imperfect competition help to explain the motivation of firms to engage in FDI. However, they seem to be still inadequate in identifying the relative national interests in FDI versus trade, or in measuring trade benefits when the exporting firm is foreign rather than domestically owned. Certainly, barriers to international investment flows and national competition policies seem to be more relevant than trade policies in affecting this form of international commerce. Such measures are less likely to be commodity-specific or even agriculture-specific than trade measures. Hedley (1997) identified a wide range of policies other than agri-food policies (e.g., taxation, labour, education, environmental, social, etc.) that affect the investment and location decisions of food sector firms. For these reasons there appears to be a growing international acceptance that, lacking clear criteria for the success of national regulatory policies, it is better for governments to respond only to clear cases of market failure.

Regardless of the inevitability of global integration, most countries are persuaded that, on balance, globalization and multilateral free trade are to their benefit; i.e., that the gains from trade are real. NAFTA countries have a common interest in achieving reductions in agricultural protection and support in third countries, and are willing to pay the price of reducing their own tariffs and "coupled" support that such reductions would entail. International agreements for freer trade inevitably imply a greater degree of harmonization of trade policies. The extent to which they also necessitate harmonization of other broad economic policies has been the subject of theoretical debate for some time (e.g., see Johnson, 1972, Ch.16). Practical evidence suggests that, in the face of free trade and functioning regional and international markets, differences in national policies become, at best, a nuisance or, at worst, a serious political irritant.

Major grain-livestock policy differences between NAFTA countries in the past have occurred in the area of farm price support and "coupled" income support programs. Progressively, CUSTA, NAFTA and the Uruguay Round⁴, in combination with a severe fiscal imperative for most governments in the 1990s, have done much to narrow these differences (see also next section). As such, support is reduced in magnitude in all countries, due to negotiated reductions in the level of border protection or due to fiscal restraint, then differences in the nature of that support become less important. Whether a "level playing field" is possible in the face of different types of support in different countries becomes less subject to dispute as the "level" approaches bedrock.

However, not all policies cost governments more money than they are willing to spend or are indirectly disciplined by trade agreements. The perception, by producers in any one country, about whether the "playing field is level" will also depend

⁴It may be prudent to add "the next WTO negotiations" to this list, recognizing that most governments don't like to be seen to be giving in to international pressure, and prefer to position themselves, by unilateral action, to stay ahead of international commitments. By having made only minor use of export subsidies and no deficiency payments for several years, the United States, for example, could argue for the elimination of both the "blue box" and agricultural export subsidies in the next round, and be argued to have already been affected by this anticipated outcome.

on the nature and cost of other countries' interventions in areas outside the scope of constraints imposed by trade agreements. And good hemispheric relations in the broad sense are usually seen by governments as much too important to be held hostage by agricultural disputes. Thus, governments may seek to lay the groundwork for broader policy goals by pursuing agri-food policy harmonization. Establishing the perception of equitable treatment under policies and programs in areas such as crop insurance, disaster payments, conservation, floor price safety nets, decoupled income support, pesticide licensing and marketing legislation and regulations can facilitate addressing broader policy issues in non-agricultural areas.

Another justification for harmonization derives simply from the difficulties of achieving smoothly functioning regional and global markets when grades and standards and other regulations differ between countries. Rail rates, variety registration/licensing, container sizes, labeling, customs procedures, grade specifications (wheat, malting barley, beef, pork), and permitted pesticide residue levels all provide examples where scope exists for more uniformity of regulation, to mutual benefit, among NAFTA countries in the grain-livestock sector.

We conclude that policy harmonization is not only desirable, but that it will become increasingly necessary in the emerging agri-food system.

PROGRESS TOWARD HARMONIZATION

In discussing, in 1998, grain-livestock policy harmonization, it is important to recognize that much has already been achieved in recent years. Casco (1997) provided a useful summary of the very ambitious Mexican agricultural policy reforms of the past fifteen years. Most importantly, Mexico's reform of its domestic corn price support program in the late 1980s allowed it to take on the related trade barrier reduction commitments required by NAFTA, creating the possibility of market-determined feed grain imports, and removing a major discrepancy between its grain policy and those of its northern trading partners. At the same time, Mexico's commitment to NAFTA provided a guarantee that its domestic policy reforms could only be reversed at a political and economic cost that would probably be prohibitive. Under the PROCAMPO program, major crop price supports are being gradually replaced with direct payment support, based on fixed per hectare payments, and decoupled from production conditions. The introduction of hedging activities by Mexican Government agencies—on behalf of Mexican producers collectively, using U.S. commodity exchanges as a means to achieving a degree of stability in producer prices—is an important innovation.

The United States never provided a significant level of direct commodity support for oilseeds, pork and beef. Beginning with the 1985 farm legislation, with further steps in 1990 and 1996, U.S. cereal expenditures have been made progressively more decoupled, and price support a progressively less important component of total cereal support. Target prices and deficiency payments represented the core of

U.S. crop policy, and their elimination, in 1995, ranked in relative national significance with the departure from corn price support in Mexico, and also removed the "budget offset" argument for proponents of grains export subsidies (IATRC).

Canadian government spending in the red meats and grains support areas is now running at only a fraction of peak levels reached in the late 1980s, and many major programs (WGSA, GRIP, WGTA, FFA, ASA and some other short-lived ad hoc programs) have been eliminated.⁵ Repeated U.S. countervailing actions over time have turned Canadian pork and, particularly, beef producers against subsidy programs. Tariff protection for beef has been made equal with that of the United States (from 1994) and beef producers have even declined to participate in the new non-commodity-specific Net Income Stabilization Account (NISA) program, even though it has been judged to be exempt from countervailing action under U.S. law. The elimination, subsequent to the Uruguay Round, of the western grains transportation subsidies, which were effectively export subsidies, removed another policy quite different from the closest U.S. equivalent (Export Enhancement Program [EEP]), and which happened to also cause a major downward distortion to beef and pork production, and other grains processing activities, in the prairie region.

Cereal grain seems to be the one grain-livestock commodity area to continue to exhibit glaring and contentious differences between remaining Canadian and U.S. policies (elaborated further in our next section). However, even here considerable progress has been recorded. Access of U.S. suppliers to the Canadian marketing system is now restricted much less than previously. The last few years have seen U.S. grain moving to port on the Canadian rail system. The planned acquisition of Illinois Central by C.N. Rail appears to bring closer the movement of some Canadian grain to export through U.S. Gulf ports. Canadian rail freight rate deregulation is reportedly close to going ahead. The Saskatchewan Wheat Pool's evolution from a pure cooperative to a public company, together with its diversification into a much broader range of economic interests, makes it look much more like some of the large U.S.-based private-sector companies, and may provide a lead which other Canadian grain cooperatives will follow.⁶ Some progress has occurred in 'lengthening the arm' between the Canadian Wheat Board (CWB) and the Canadian Government: Bill C-4, now before the Canadian Parliament, encompasses several revisions to the Canadian Wheat Board Act.

In the regulatory area, there has been considerable collaboration, over time, between the U.S. and Canada in moving towards more similarity in pork, beef and grain grading systems. While still not fully compatible (e.g., Canada retains its "index" system for hogs which rewards leanness), all are more so than they used to be.⁷ Furthermore, the scope for Canadian farmers to contract for supplies according to buyers' own specifications is gradually increasing (e.g., the relaxation of obligatory hog marketing through monopoly cooperative marketing boards in many provinces).

⁵Acronyms used here: WGSA - Western Grains Stabilization Act; GRIP - Gross Revenue Insurance Program; WGTA - Western Grains Transportation Act; FFA - Feed Freight Assistance; ASA - Agricultural Stabilization Act.

⁶Merger discussions between the Manitoba Pool Elevators and the Alberta Wheat Pool were reported in the Toronto Globe and Mail of 22 April, 1998.

It is evident that some harmonization has been achieved by amputation (e.g., Canadian transport subsidies and U.S. deficiency payments) and other by reconstructive surgery (ongoing changes to the CWB and evolution of the NISA program in Canada). In general, the oilseeds, pork and beef areas are now relatively trouble-free. Major remaining grains/livestock policy harmonization issues are confined to the area of cereal grains.

MAJOR OUTSTANDING INSTITUTIONAL ISSUES

At least three aspects of existing U.S. policies cause concern for Canadian grains farmers. One is that direct payments to U.S. crop farmers remain high, that the planned phase out over seven years of a major part of these remains uncertain and potentially reversible by Congress, and that, although much more decoupled than previously, such payments can never be fully decoupled.⁸ A second is that grain export subsidies (EEP), and 'permanent' U.S. farm legislation dating from the 1930s, remain 'on the books', even though not currently used. Absent a policy about-face in this regard by the United States, these first two concerns are likely to lessen with the passage of time. Canada can still be expected to do its utmost in multilateral negotiations beginning in 1999 to eliminate the possibility of the use of export subsidies by the United States. The latter country may be ready to make this commitment at that time, subject to obtaining the same commitment from all other countries. The third concern is U.S. export credit guarantee programs, particularly GSM 103 which, with its long (up to 10 year) repayment provisions, goes well beyond what all other Organisation for Economic Co-operation and Development (OECD) countries have agreed to be appropriate for most agricultural products.

The continued existence of the CWB is certain to be the major Canadian thorn in the side of the United States in the grain-livestock area. As a state trading enterprise it is one of a number of international targets, including the state importing agencies of large markets like China, Japan and Russia, and other major single-desk exporters, such as the New Zealand Dairy Board and the Australian Wheat Board. The United States is expected to make state trading agencies a priority issue in the next round of multilateral trade negotiations. It seems very likely that other monopoly exporters (e.g., the Australian Wheat Board or New Zealand Dairy Board) will be radically changed in coming years, increasing the pressure for the CWB to be similarly modified (Dobson, 1998).

⁷Some analysts question the relevance of national grading systems and suggest that they will become redundant in the future as "designer commodities" proliferate. Martin (1994), for example, notes that large loin eyes and absence of "PSE" (pale, soft exudative) in pork both have considerable market value, but neither is rewarded by Canada's hog grading system.

⁸Although lower than payments in the peak support years of the 1980s, U.S. crop producer payments have declined proportionately less than Canadian crop producer payments since that period, and Canadian producers are well aware that these U.S. payments are currently higher than they would have been had the pre-1996 legislation continued.

From a competitive perspective, the relative lack of transparency surrounding the Board's operations is a source of suspicion (about possible hidden government subsidies and/or other unfair advantages) and concern to U.S. interests. It is difficult to envisage U.S. pressure diminishing on this issue until the CWB loses its monopoly status, is made completely independent of the Canadian government, and operates with a degree of transparency comparable to large private sector grain marketing enterprises. A Toronto Globe and Mail editorial recently (3 Feb. 1998) pointed out that the CWB is one of the few Canadian federal institutions not subject to the Access to Information Act or the scrutiny of the Auditor General. It characterizes Bill C-4 (1998) as "leaving the Wheat Board as it has always been: a secretive monopoly". Ironically, the fact that the CWB existed in recent years, and acted to restrain Canadian grain flows into the U.S. market, probably resulted in some price benefits for U.S. grains producers and lower fiscal costs of EEP expenditures.

The CWB provides intraseasonal price pooling for Western Canadian grain producers. With the hedging opportunities now available to farmers, this feature is probably of less value than it once was, and undoubtedly is a deterrent to use of hedging by Canadian grains producers.⁹ Similarly, if and as targeted export subsidies and state trading by other countries (which serve to segment export markets and create artificial price differentials) are phased out in the future, another current justification for the CWB's existence will be weakened.

Both the United States and Canada provide minimum effective producer price schemes for wheat and barley, which, although distinct in nature, are similar in effect, at least for producers.¹⁰ The U.S. "loan rate" price corresponds to the Canadian "initial payments" price. Both prices have been maintained at conservative levels in recent years, and have not influenced farmers' returns in either country for some years. However, in the event of a major decline in world market prices, U.S. producers would be assured of receiving at least the loan price, as loans may be repaid at market prices if these are lower than the loan rate. In Canada, the federal government still finances any "pool deficit" between the average CWB sale price for the season (less marketing costs) and the announced "initial price". The inconsistency arises because the U.S. loan rates are formula-based on 5-year moving average historic prices (though also subject to legislated upper limits) whereas the Canadian initial prices are based on market prospects for the coming season. There are also elements of price forecast signaling and advance payments in the Canadian mechanism.

The differences between the two countries grain grading systems are the source of several other inconsistencies throughout the whole grain marketing system in operation in each country. In both countries grading is based on visual characteristics. In Canada, unlike the U.S., only varieties which are visually distinguishable are licensed for use. In effect, it is probably accepted on both sides of the border that the Canadian system, administered by the Canadian Grain Commission (CGC),

⁹ It may also be a deterrent to the development of the Winnipeg Commodity Exchange.

¹⁰ Note that, while guaranteeing minimum prices to producers, neither of these schemes as currently operated provides a floor support to respective domestic market prices.

results in more consistency in the delivered product.¹¹ This superior consistency and reliability of the Canadian product is valued by some buyers and gives rise to a recognized premium for Canadian grain, relative to the price paid for the same average quality grain from the United States, in some overseas markets.¹² Naturally, this is an advantage which Canadians are loathe to abandon. Unfortunately, maintenance of the integrity of the Canadian system requires that, to the extent that visually indistinguishable varieties are imported, care must be taken to ensure that they be segregated from Canadian export grain in the process of elevation and transportation. Thus the different grading mechanism gives rise to a whole set of regulations and restrictions in grain production and marketing in Canada which are not present in the United States. These differences have their costs. A simulation study by Wilson and Johnson (1995) found, for example, that relaxing variety release requirements or increasing the use of contracting, to allow greater production of 6RW barleys in Canada, would generate increased Canadian penetration of the U.S. malting barley market and higher grower prices.

The CWB could be argued to have been ahead of its time in historically providing a product very carefully controlled and designed for the needs of its customers. Unfortunately, it has focused its attention on just one group of customers for milling wheat (those seeking high quality bread wheat) to the exclusion of others, and in so doing may have discouraged or prevented the production in Western Canada of other wheat more suited to the needs of other potential customers. It has been suggested that, as a consequence, in an average year it must market more high quality bread wheat than the premium export markets for this type of wheat can absorb, with the result that much of the high quality crop must be sold at a discount. Apart from generating accusations of discriminatory or even predatory pricing, such an outcome also represents a loss for Canadian farmers who, in theory, could have been serving such markets with higher-yielding lower-quality wheat for greater economic gain. In addition the low rate of historic gain in Canadian wheat yields is claimed by some to reflect the constraint placed on Canadian wheat breeders by the visual distinguishability requirement of the licensing system.

Crop insurance and disaster expenditures, although not identical, are probably viewed as comparable enough to not give rise to serious concerns in the other country. U.S. conservation expenditures, although relatively much higher than comparable Canadian programs, are unlikely to cause problems in Canada, because most Canadian farmers recognize that they also benefit from the price enhancing

¹¹See, for example, a series of USDA/ERS papers to appear in the 1990's subsequent to directives in the 1990 U.S. agricultural legislation, and cited and summarized in Mercier and Hyberg.

¹²Care must be taken, in making such comparisons, to recognize that part of the "Canadian premium" may derive from factors other than the Canadian grain's superior consistency/reliability, such as Canada's provision of carefully scheduled, "just on time" delivery for clients with limited storage capacity, the obligatory cleaning of Canadian grain prior to export, or even possibly the ability of the CWB to price up where it appears that a foreign state purchasing agency has a (relatively price-inelastic) "Canadian quota" as part of its supply diversification policy.

effect of the lower U.S. production which these programs bring. Moreover, such policies tend to be decoupled from both market prices and production decisions, creating fewer inequities requiring harmonization.

In the pork and beef areas, both countries' producers express concerns from time to time about each others' sanitary restrictions on live animal trade and border inspection procedures. Canadian and (some) U.S. producers also seek a recognition of equivalency in grading such that imported meat could be given the importing country's grades (Hayes and Kerr, 1997). However, in general, recent years have witnessed cooperative bilateral relations between pork and beef producers, and the two countries' policy regimes are working harmoniously in these areas.

A key Mexican irritant in recent years for Canadian oilseed interests has been the high rate of duty on imports of canola oil (in the order of \$45/tonne). Coupled with a relatively low duty on seed imports, this serves as a significant protection for the Mexican crushing sector. More importantly, acting in parallel with similar protection in Japan, it creates a situation where foreign seed buyers can bid up the price of seed and erode domestic crushing margins in Canada (although benefiting Canadian growers). However, time will solve this problem as Mexico's tariffs on products from its NAFTA partners are gradually reduced to zero. Another issue of current concern for Canada is Mexico's administration of its barley tariff rate quotas (TRQs), which, in the main, limits Canada's exports to malting barley. Canada would like to be allocated the unused part of the U.S.'s barley TRQ into Mexico.

OPPORTUNITIES FOR FURTHER HARMONIZATION

At the outset, it may be important to recognize that the subject is harmonization among unequals. The U.S. market is relatively more important to the Canadian producer than vice versa. In plurilateral negotiations, the bigger players tend to call the shots. Whether or not it is 'fair' or 'just', the reality may be that Canada and Mexico may need harmonization more than the United States does, and may have to be prepared to move further to get it. Consequently, the 'opportunities' for further harmonization we have identified below would generally involve more actions on the Canadian side than on the U.S. side.

Multilateral Trade Negotiations. Both countries have several common interests which could be pursued in a future round of multilateral trade negotiations. These include the elimination of export subsidies, and the "blue box" policies permitted in the Uruguay Round Agreement (URA). Committing to abstain from the use of export subsidies and "direct payments under production-limiting programs" would lock in some of the policy changes already operational in both countries, thus increasing the permanency of current progress towards harmonization in some policy areas. Tightening the "green box" criteria would result in more common interpretation of the requirements of this box, and, consequently, less variability of green programs that may be introduced in different countries in the future. Further reductions in tariff levels vis-à-vis third countries will normally result in more Canadian/U.S./

Mexican consistency in such tariffs, where they are not already equal. There is also scope for achieving strengthened disciplines on TRQ administration, and more consistency in NAFTA country practices in this regard.

Minimum Producer Price Mechanisms. The U.S. and Canadian governments could collaborate in the setting of consistent “loan rates” and “initial prices,” respectively. Since U.S. loan rates are legislatively established and would require congressional action to change, and Congress might reject such a loss of sovereignty as unacceptable, a similar outcome could be achieved if Canada would announce a policy of adopting initial prices consistent with prevailing U.S. loan prices, and matching any subsequent U.S. adjustments. The knowledge that Canada was applying such a policy would inevitably be taken into consideration by U.S. decision-makers when choosing their own loan rates.

There would appear to be clear benefits to the Canadian government in confining its guarantee of initial prices to essentially the same as the U.S. government now provides under its loan program—namely, a low-slung, market-linked floor support to effective producer prices. The current ‘price signal’ role of initial prices could be taken over entirely by the “forecast pool returns” now offered regularly by the CWB. Similarly, leaving decisions on advance payment levels, and the risk involved, entirely to the CWB, would be a significant contribution to reducing the perceptions of government control, and of lack of risk in the market place, in the eyes of CWB critics. Such changes could be made under the enabling legislation of Bill C-4, now before Canadian Parliament.

CWB Pooling/Pricing to Producers. As already discussed, events over time are reducing the need for pooling. Assuming pooling will not be abandoned, however, the CWB could explore the use of different payment mechanisms. For example, it might purchase its grain on similar terms to private sector firms, perhaps at a slight discount but with a much higher up-front payment to farmers than at present, and pay out an additional “cooperative dividend,” if any, at the end of the season. This would give the perception of its having to assume a level of risk much more comparable to the private sector grain marketing companies. Such pricing mechanisms would be similar to those used by some cooperatives in the United States, making Canadian pricing practices more consistent with those of U.S. farmer cooperatives. The 1996 (Canadian) Western Grains Marketing Panel proposed several other ways in which more flexibility could and should be built into the CWB pricing mechanism, including the possibilities of making cash purchases (e.g., under contracts referenced on spot or futures prices on the Minneapolis Grain Exchange), of paying farmers for grain storage, of closing pools earlier, and of allowing farmers to cash out of pools or to trade negotiable pool certificates.

CWB Government Links and Transparency. By appointing its Commissioners, the responsible Canadian minister still retains effective control over the CWB. Bill C-4 proposes certain changes to its administrative structure which would phase in some election of directors by producers, without relinquishing effective control for the Government through the appointment of the Chair. The Board could be transformed

into a true cooperative, accountable fully and only to its members, and with all directors elected and a Chief Executive appointed by them. Such changes would establish a governing structure more comparable to those of U.S. agricultural cooperatives, alleviating questions about the effective control of the CWB. It seems reasonable to assume that international concerns about transparency would be much less of an issue if the CWB was transformed into a true cooperative and ties with the Government were cut. Domestic suppliers' concerns about CWB accountability and transparency can be expected to continue to grow.

CWB Monopoly. The obligation for Western Canadian wheat and barley producers to market through the CWB will, for as long as it lasts, cause the Board to continue to be perceived to be a state trading enterprise, and remain subject to international (particularly U.S.) criticism and pressure. There is already considerable domestic pressure within Canada in the direction of reducing or removing the CWB monopoly. The Western Grains Marketing Panel recommended (1996) that feed barley be removed from CWB exclusivity. Polls seem to indicate that a majority of farmers prefer a "dual marketing" option of being able to supply the CWB or to market privately. Many farmers have already challenged the Board's authority, in court and in other ways. In 1998, a Manitoba Court of Appeal found that, contrary to popular belief, the CWB was not obliged to get the best price for farmers, and that it "owes them no duty of care".¹³

The Western Grains Marketing Panel (1996) effectively proposed that the CWB monopoly could be changed to a monopoly on the use of existing Canadian wheat grades, which would continue to be subject to varietal controls. This would allow the CWB to continue to service clients who sought the top quality bread wheats and the high level of intraseasonal consistency which the current system provides. But such a change would also allow producers who so choose to grow unlicensed wheat varieties and sell the grain to private sector buyers. Such a system would imply the need for careful segregation of 'identity-preserved' CWB wheat and differently-graded other wheat at all stages in the elevation, transport and export system. This may be facilitated by the large increases in Canadian elevator capacity currently underway, and by the more frequent use of containers as a grain transportation mode.

It seems likely that, in the event that it lost its wheat export monopoly status, some international customers would continue to prefer to do business with the CWB, and that it would at least retain its business in the lucrative Japanese market, as well as others. This should make it attractive as a marketer of choice for many Canadian farmers. Consideration could also be given to making the CWB services available to U.S. farmers, particularly in northern tier states, who were willing to grow Canadian-licensed varieties for the CWB under contract. CGC services could also be provided to such farmers. The U.S. could cooperate in removing any obstacles to such practices. Such actions would help the CWB to remain viable, perhaps at a smaller scale of operations, even after such a loss of monopoly status.

¹³This finding was part of a decision brought down by Justice C. Huband in the case of M-J Farms Enterprises Ltd., reported September 29, 1997.

Grain Grades and Standards. The question must be asked whether for grains, just as for red meats, a national grading system will ultimately be needed. With increasing use of buyer specifications of particular end-use characteristics, there is alternatively the possibility of private sector third parties providing a testing service as, for example, in France. Assuming, however, that there is a perceived need for national grain grading to continue, it would seem to be highly desirable for both countries to cooperate in developing a common grain grading system which sought to improve the consistency and reliability of the current U.S. system, but which, in Canada (at least for non-CWB grains), replaced visual assessment with a practical, low cost and scientifically objective grain testing procedure to provide standardized specifications of key attributes including moisture, gluten and protein content. Several tests not in widespread use are understood to already exist. With adequate research funding, including contributions from both sides, it seems inconceivable that modern science and engineering would not be equal to the task of developing practical procedures applicable at a reasonable cost. Mercier and Hyberg (1995) point to the potential advantages of including important intrinsic (end-use) characteristics as grade-determining factors, or at least providing inspection certificates which describe accurately the status of the grain in terms of these characteristics and based on objective tests.

In summary, we would advocate the full harmonization of U.S. and Canadian 'off-Board' grading standards, and thus would go further than the Canada-U.S. Joint Commission on Grains (1995). The recommendation of the latter for standardization of grading methodology (sampling procedures, moisture measurement, protein measurement) would seem, however, to be a bare minimum requirement. The two official agencies—the Grain Inspection, Packers and Stockyards Administration (GIPSA) and the CGC—have been reported to be collaborating towards this end for several years.

IMPLICATIONS OF STRUCTURAL CHANGE IN THE AGRI-FOOD SYSTEM

The global integration of national economies and the subsequent harmonization of agricultural policies are occurring at the same time that the agri-food system is undergoing a "quiet revolution" that is changing the economic structure of industries throughout the system. Many of the changes occurring in the food system are partly caused by, and reinforcing of, the changes in policy caused by harmonization. These changes will in turn raise new issues in policy harmonization in the future.

The changes occurring in the food system are a result of changes in consumer demands and changes in the system's capacity to fulfill those demands. Consumer demands are changing to reflect a greater demand for food ingredients with specific quality characteristics. A greater emphasis on freshness, nutritional quality, consistency, convenience, and variety at the retail level creates a farm-level demand for commodities with specific ingredient characteristics necessary to produce foods that satisfy the demands of consumers.

The Driving Force of the Changing Consumer. Much of the change in the food system is driven by the rising demand for convenience by consumers. With the changing family and work structure of many families, and particularly with the rising economic value of the time of women working outside the home, consumers are demanding a higher level of preparation, combined with a high level of quality. In the United States, for example, nearly sixty percent of working-age women are employed outside the home, with mothers tending to have the highest levels of employment outside the home. Changes in family structure reinforce this trend, with two major groups—unmarried singles living alone and single-parent families—representing the fastest growing portions of the U.S. population (Mogelonsky, 1995).

These trends suggest that the economic value of time for food consumers is rising, with the opportunity cost of the time used to shop for and prepare food becoming prohibitive for many consumers. This reality is reflected in the rising proportion of meals consumed away from home or purchased in prepared form for consumption at home. Americans spend nearly 50 percent of their food expenditures on food consumed away from home (representing nearly 37 percent of the total food consumed). In perhaps the most telling indication of the time stress faced by many consumers, a recent retail industry survey found that 70 percent of Americans do not know what they will have for their evening meal at 4:00 p.m. in the afternoon (Food Institute, 1998). When food purchasing decisions are made on-the-run, it becomes obvious why the food retailing industry now views itself as being a direct competitor with the food service industry in providing prepared meals to consumers. To do otherwise would forfeit an even larger share of food sales to the food service industry. Such patterns are observed in many countries as the economic development process proceeds (Heijbroek, 1995). In Mexico, for example, single people, higher income people, and working women tend to consume more meals away from home (Food Marketing Institute, 1995).

Even the fundamental notion of food retailing as a physical location where consumers must go to buy food is being challenged by the rising demand for convenience. On-line grocery shopping is now available by internet in many U.S. cities, and, while the success of these firms has been limited, industry analysts believe that such shopping services will serve a significant portion—probably the higher-income portion of the population that is highly desired by food firms—in the next 10 years, with a consensus forecast by industry analysts suggesting that 20 percent of U.S. grocery sales will be sold through electronic transactions by 2008 (Food Institute, 1996 and 1997).

Combined with this demand for convenience is a demand for variety and quality that creates an intense pressure within the food industry to provide a continuing supply of products and services that satisfy consumers' desires. This results from an increasing ethnic diversity (Mogelonsky; Senauer, et al) and from consumers' desire to experience new foods (Pierson and Allen, 1993). New food product introductions in the United States have averaged 15,000 items in recent years, though the success rate of those introductions remains minuscule. This demand for variety

suggests that the derived demand at the farm level for food ingredients that provide specific characteristics essential to the production of specific food products will continue to increase.

Industry Responses to the Changing Consumer. At the same time that changing consumer demands require farm products with increasingly specific characteristics, changes in technology are permitting input suppliers to develop plants that supply those ingredient characteristics (Barkema, Drabenstott, and Welch, 1991). Genetic modification of plants to provide pest protection is now commonplace, with 20 percent of corn acreage, 30 percent of soybean acreage, and 50 percent of cotton acreage in the United States being planted to genetically modified seeds (Kilman, 1998).

These developments remain unrelated to the final characteristics of the crop, however, with additional new products that supply the characteristics demanded by end-users just beginning to emerge from laboratories. Seeds that are modified to contain specific levels of oil, starch, or protein, specific amino acids are emerging (Phillips, 1994). These may be followed by plants that are designed for specific industrial uses or the production of industrial or pharmaceutical chemicals. One industry forecast sees the current genetically engineered products as the first wave of "crop protection traits," to be followed by the introduction of plants designed for their crop quality traits (end use characteristics), followed by productivity-enhancing agronomic improvements and, within fifteen years, the introduction of plants designed as inputs for industrial products (Looker, 1998).

A Second Generation of Harmonization Issues. The changes occurring at both the retail level and the farm input supply level of the food system will be accompanied by changes in the marketing institutions in the grain, oilseed and livestock industries. Open market production, guided by price determination in spot and futures markets will be replaced, in many cases, by contractual relationships that determine production practices, establish delivery schedules and locations, and protect the property rights of the investors in new seed technologies. Policies and pricing institutions based on an assumption of homogeneous commodities, including such fundamental policy tools as U.S. loan rates, may be unable to provide the information-intensive coordination functions required in a grain sector driven by end-user demands. In some cases, institutional harmonization may come as a private sector initiative led by seed supply firms (perhaps better called "genetic information supply firms"), agri-food manufacturers and retailers (perhaps better called "end-user information supply firms") and grain handling firms (perhaps better called "logistical information supply firms"). These firms will own the three essential forms of information needed to operate a grain marketing channel in the emerging food system.

These changes also suggest that recent efforts at harmonization, though important, are likely to soon give way to a "second generation" of harmonization issues. These issues will focus on three areas. First, intellectual property rights, and an ability to protect intellectual property rights, will be central to the functioning of the emerging grain sector. Second, property rights over other forms of information—

such as information derived from on-farm application of genetically engineered products and collected through Global Positioning and Geographic Information Systems—will determine the ability of firms to capture the return on their investment in genetically modified plants. Third, contract law, and its application to vertical relationships among firms, will govern the institutional structure in which vertical alliances will be formed. These areas of policy, while not completely new to agricultural policymakers, will require a dramatic broadening of the policy agenda to include areas of law far beyond the price-based policies that have dominated agricultural policy discussions in recent years.

CONCLUSIONS

There has already been considerable progress in recent years in U.S./Mexico/Canada policy harmonization in the grain-livestock sub-sector. In the livestock area and for many crops, including oilseeds and the minor cereals, there are no serious policy disharmonies between the United States and Canada. Wheat and barley pose the key remaining problems.

Conventional wisdom in the Western Canadian grain sector seems to be that if the CWB's monopoly is removed it will not survive domestic competitive pressures. We conclude that if the CWB's monopoly is *not* removed it will not survive domestic and international political pressure. If both are correct, it follows that the CWB will not survive either way. However, we suspect that the CWB could continue to be viable, perhaps at a reduced scale of operations, even with the loss of its monopoly status. The 1996 recommendation of the Western Grains Marketing Panel to allow Canadian farmers the flexibility to grow unlicensed varieties and sell to the private trade, and to confine the CWB monopoly to the marketing of wheat using the traditional Canadian "appellations," should be adopted by the Canadian government.

Both countries should devote significant resources to the development of a practical, scientifically objective and mutually acceptable grain measurement technique and grading system (the latter to be applicable to off-Board wheat in Canada's case). The objective here should be to improve consistency and reliability of the current U.S. system while avoiding the need for visually distinguished grades and licensing.

Canada should coordinate its initial payments levels with the prevailing U.S. loan rates so as to ensure the same levels of minimum effective producer price guarantee for major grains in both countries.

Changes in consumer demands and technology will raise a new set of policy harmonization issues. These issues will range far beyond the price policy issues that have dominated the agricultural policy agenda in recent years and will determine the institutional structure of agri-food markets.

REFERENCES

- Barkema, A., M. Drabentstott, and K. Welch. 1991. "The Quiet Revolution in the U.S. Food System." *Economic Review*. Federal Reserve Bank of Kansas City, May/June, pp. 25-37.
- Bonnen, J.T., D.D. Hedley and D.B. Schweikhardt. 1997. "Agriculture and the Changing Nation-state: Implications for Policy and Political Economy." *American Journal of Agricultural Economics*. 78:5 December, 1419-28.
- Canada-U.S. Joint Commission on Grains. 1995. *Final Report*. Volume 1. Winnipeg and Washington, 219 pp.
- Casco, A. 1997. "Learning to Make Markets Work in a Newly Opened Economy: The Mexican Experience." In *Economic Integration in the Western Hemisphere*, edited by C. Valdes & T. Roe. Proceedings of a Symposium in Costa Rica, June 1995, International Agricultural Trade Research Consortium, pp. 9-23.
- Council for Agricultural Science and Technology. 1995. *Competitiveness of U.S. Agriculture and the Balance of Payments*. Task Force Report number 125, 34 pp.
- Dobson, W.D. 1998. "The New Zealand Dairy Board: Will the Board's Monopoly Exporting Privilege Survive?" *Choices*, Vol. 13, No. 1, First Quarter, pp. 8-13.
- Federal Task Force on Agriculture. 1969. *Canadian Agriculture in the Seventies*. Report, Information Canada, Ottawa, 475 pp.
- Food Institute Report. 1998. "What's For Dinner? Ask Me Later." *Food Institute Report*. March 9, p. 1.
- Food Institute Report. 1997. "Forget Bagging...Why Not Just E-Mail?" *Food Institute Report*. June 30, p. 3.
- Food Institute Report. 1996. "The Future of Electronic Shopping." *Food Institute Report*. January 29, p. 6.
- Food Marketing Institute. 1995. *Trends in Mexico: Consumer Attitudes and the Supermarket, 1995*. Washington, D.C.: Food Marketing Institute.
- Handy, C., C. Bolling, P. Kaufman, S. Martinez, C. Price, and D. Henderson. 1996. "Foreign Direct Investment in the Processed Food Sector." In *Globalization of the Processed Foods Market*, edited by D.R. Henderson, C.R. Handy, and S.A. Newf. U.S. Department of Agriculture, Economic Research Service, Agricultural Economic Report number 742, pp. 67-96.
- Hayes, D.J., and W.A. Kerr. 1997. "Progress Toward a Single Market: The New Institutional Economics of the NAFTA Livestock Sectors". In Loyns et al, eds., (below), pp. 163-180.

- Hedley, D.D. 1997. "Emerging Policy Issues and Research Priorities on Western Hemisphere Integration." In *Economic Integration in the Western Hemisphere*, edited by C. Valdes and T. Roe. Proceedings of a Symposium in Costa Rica, International Agricultural Trade Research Consortium, pp. 269-273.
- Heijbroek, A.M.A., A.M. Nederhoed, And A.J. Van Pottern. 1995. *The International Food Industry: Developments and Strategies*. Utrecht, The Netherlands: Rabobank Nederlands, Food and Agribusiness Research.
- Henderson, D.R., C.R. Handy, and S.A. Newf. 1996. *Globalization of the Processed Foods Market*. U.S. Department of Agriculture, Economic Research Service, Agricultural Economic Report number 742.
- Huband, Justrie C. 1998.
- Johnson, H.G. *Aspects of the Theory of Tariffs*. 1972. Cambridge: Harvard University Press.
- Kilman, S. "How Lawyer Made DeKalb a Biotech Star." 1998. *The Wall Street Journal*, April 3, p. B1.
- Looker, D. "Demand for specialized soybeans is expected to grow in 1998." 1998. *Successful Farming*. January, pp. 18-20.
- Loyns, R.M.A., R.D. Knutson, K. Meilke, and D. Sumner, eds. 1997. *Harmonization/Convergence/Compatibility in Agriculture and Agri-Food Policy: Canada, United States and Mexico*. Proceedings of the Third Agricultural and Food Policy Systems Workshop.
- Martin, L. 1994. "Taking the Bull by the Horns: Reinventing the Canadian Agri-food Sector for the 21st Century." *George Morris Centre Fall Newsletter*. Guelph.
- Mercier, S. and B. Hyberg. 1995. "Grain Quality Revisited." *Choices*. First quarter, pp. 35-38.
- Mogelonsky, M., 1995. *Everybody Eats: Supermarket Consumers in the 1990s*. Ithaca, NY: American Demographic Books.
- Phillips, M.J. 1994. "Changes in Technologies: Opportunities and Challenges for American Agriculture." In *Food and Agricultural Markets: The Quiet Revolution*, edited by L.P. Schertz and L.M. Daft. Washington, D.C.: National Planning Association.
- Pierson, T.R. and J.W. Allen. 1993. *Competitiveness in International Trade: Roles for Innovation and Entrepreneurship*. Food Industry Institute, Michigan State University, Report Number 9302.
- Senauer, B., E. Asp, and J. Kinsey. 1991. *Food Trends and the Changing Consumer*. St. Paul, MN: Eagan Press.

The Globe and Mail. 1998. *Editorial Comments*. February 3.

West, D. and O. Vaughan. 1995. "Globalization and the Food and Beverage Processing Industry." *Canadian Journal of Agricultural Economics*. 43.4: 565-578.

Western Grains Marketing Panel. 1996. "Grain Marketing." Report to the Government of Canada, July, 117 pp.

Wilson, W.W. and D.D. Johnson. 1995. "North American Malting Barley Trade: Impacts of Differences in Quality and Marketing Costs." *Canadian Journal of Agricultural Economics*. 43.3: 335-353.