THE CHANGING ORGANIZATION, STRUCTURE, AND CONTROL OF CANADIAN AGRICULTURE

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Public interest in the agricultural sector in Canada has greatly increased since 1973. Canadian consumers continue to be worried by increases in food prices and their causes. The farm production sector faces continued income instability in the short run, relatively low incomes for many (though not all) producers, and apparent increases in the degree of inequality in the distribution of agricultural income and wealth. Canadian taxpayers are in no mood, it would seem, to increase the relatively modest (except for the dairy sector) levels of direct government support to agriculture. During recent months, the dialogue on a potential food strategy for Canada has continued. To our mind, this debate, while fruitful to some degree, has not always identified the major issues facing Canadian agriculture nor clearly outlined the possible solutions and hard choices that Canadian society might undertake.

In this paper, we present our perception of how the structure and organization of Canadian agriculture is evolving and outline some major areas for policy attention and societal regulation. In the course of our discussion, we shall examine the primary production sector and the marketing economy.

The Primary Production Sector

The basic features of structural change in Canadian agriculture, as in most rich industrial nations, are reasonably familiar. Since World War II, Canadian agriculture has been characterized by increasing

total output, rising total factor productivity (though increasing much more slowly recently), a high rate of growth of labor productivity (exceeding that in non-agriculture), substantial increases in real capital values per farm, declining numbers of farmers and farms, and increasing farm size (see Table 1).[1] Although output per unit of labor has increased significantly, the capital-labor ratio has increased even faster; the substitution of capital for labor has been caused by increases in the price of human time relative to the price of producer goods and the associated labor-saving nature of induced technical change. Concommitantly, the capital-output ratio in Canadian agriculture has tended to increase. The type of capital used, especially in the grains economy of the prairie region, has tended to be labor-augmenting in nature rather than land-augmenting--that is, machinery rather than fertilizer (Furtan and Lee).

Despite the absolute advances in total agricultural output, agriculture in Canada directly contributes a relatively smaller proportion of national output than in earlier years. In the mid-1970's, for example, agriculture's share of Canadian gross domestic product had declined to only 3 to 4 percent. Furthermore, the agricultural sector directly employs fewer workers, both absolutely and relatively, than it did in the past. The number of farmers and farm workers has declined from 939,000 in 1951 (some 18.4 percent of the total employed labor force) to 474,000 in 1976 (some 5 percent).

This tendency toward structural change with respect to the role of agriculture in the Canadian economy is the result of several longer run economic forces which were outlined by Schultz over three decades

ago (Brandow, pp. 214-216). Some of the events of the 1970's--notably lagging productivity growth, the energy crisis (with the concern expressed by some that capital for labor substitution would be seriously constrained, if not reversed, by lack of fossil fuels), and the resurgence of foreign export demand for grains--have temporarily overridden, but at least in the medium term have not eliminated, the fundamental and pervasive forces which Schultz saw at work in North American agriculture. The absolute amount of labor employed in Canadian agriculture may have temporarily stabilized at slightly less than half a million during the past five years; similarly, the number of (census) farms with sales of $1200 or more may have increased very slightly between the 1971 and 1976 Census. Nevertheless, we anticipate that the number of farmers and farms in Canada will further decline, albeit at a slower rate, in the years ahead. In fact, the apparent stability in the number of census farms between 1971 and 1976 at 300,000 is a statistical illusion generated by price effects since large increases in prices, especially for grains, have brought more agricultural holdings over the $1200 level (for an outline of this bias on census farm numbers in the United States, see Gardner and Pope). Agriculture Canada's estimates for the year 2000 of 250,000 agricultural holdings in Canada (composed of 85,000 full time commercial farmers, 40,000 full-time small farmers with inadequate incomes, and 125,000 part-time farmers primarily dependent on non-farm income) or less than 200,000 census farms do not seem out of line (McKenzie in Agriculture Canada, Volume III, 1977, p. 64).

Associated with the decrease in the number of farms has been the

steady increase (whether measured in terms of average sales level, capital invested, or land area) in average farm size. We anticipate that further increases in the size of the farm unit will occur although, again, the rate of change will probably be slower. Horizontal integration is a partial solution to some of the structural problems of agriculture and yet a problem in itself. To the extent that smaller, marginal farm units can increase their land base and become viable units, horizontal integration is in the public interest. However, if increasing farm size merely indicates that larger, commercial farm units are becoming even larger, horizontal integration may be more questionable. We shall enlarge on this theme as our discussion proceeds.

Canadian farms have become increasingly specialized, particularly with livestock production. The major source of production for most poultry meat, eggs, potatoes, and hogs has switched from mixed farms to relatively specialized farms. Between 1971 and 1976, the number of census farms reporting milk cows decreased 30 percent; similarly, the number reporting hogs declined 45 percent, a result of the high actual and opportunity costs of feed barley and the less pressing financial need for farm diversification. As in the United States (Breimyer), the trend toward separation of livestock and poultry enterprises from feed crop production has continued. One factor which may affect specialization in cash grain crops, at least in western Canada, is the increasing recognition that current cropping and summer-fallowing patterns may be leading to serious loss of soil fertility and encouraging salinization.

The fear that the family farm is disappearing and being replaced by the corporate farm is frequently expressed. However, the overwhelming majority of farms in Canada are family-related business concerns. In 1976, 91.5 percent of the census farms were single or individual proprietorships with only 3.8 percent in partnerships and 4.4 percent in legally constituted companies (corporations and a very small number of cooperatives). Of the corporations, 85.9 percent were family corporations. Corporate farms controlled 9 percent of the occupied farm land area and nearly 8 percent of the improved land area in 1976 in Canada. In 1971, over 8 percent of the total value of sales came from corporate farms. In 1976, we can only speculate--given the retrogressive step of Statistics Canada in eliminating this and other income distribution information in the 1976 Census--that some 10 to 15 percent of gross sales came from corporate farms (and the vast bulk of this from family incorporations). Roughly one-quarter of the corporate farms in 1976 had sales of $100,000 or more and about the same proportion had gross sales levels under $10,000, an indication perhaps that many farms in this latter category were hobby farms.

It is true that the number of corporate farms nearly doubled between 1971 and 1976 and that the recent extension to corporate farms of capital gains rollover provisions--that is, the non-taxing of capital gains on intergenerational transfers--may spur additional incorporations among farm families. It is important that we monitor trends with respect to this type of business organization and collect data not only on numbers but also on its economic significance and performance. Moreover, it may be necessary to make our tax and institutional

structures more even-handed in the treatment of incorporated as opposed to non-incorporated commercial farms. We suspect that the main motivation for incorporation is tax breaks unavailable to the single proprietor, rather than reasons of limited liability or generation of external finance.

Vertical integration by agribusiness in the farm production sector is not a major, nor apparently growing, phenomenon in Canadian agriculture. There are certain notable exceptions; vertical integration is extensive in vegetable production in various provinces (and particularly potato production in New Brunswick), hog finishing in Quebec, and broiler production in Quebec and elsewhere. However, the Agriculture Canada assessment (Vol. I, Part A, 1977, p. 84) is that the aggregate level of control exercised by agribusiness firms over farm production, particularly by outright farm ownership, has been declining in recent years.

Canadian agriculture is, and is apt to remain, a family farm oriented industry. But it is hardly a small family farm oriented sector. The central issues for Canadian agriculture relate to how many family-related farms there should be, how production should be distributed among them, what specific programs we should have for poverty level farms, and how policy--in the realms of price, marketing, credit, and tax matters--should be geared to the increasingly dominant commercial farms, virtually all of which are family concerns.

Among the most striking changes in Canadian agriculture in this decade has been the dramatic increase in capital value per farm, led by a near doubling between 1971 and 1976 in the real (discounted for general inflation) value of land and buildings per farm. At the present time, the average nominal capital value of a census farm in Canada exceeds $200,000 with at least three-quarters of this total accounted for by the value of land and buildings. Farm land values have increased substantially in all parts of Canada, but the increases have been greatest in the prairie region of western Canada, which contains well over one-half the census farms and over four-fifths of the occupied farm area in Canada.

The causes of escalation in farm land values are complex, but many of the forces which have been suggested as operative in the United States (Raup) exist in Canada as well. Chief among these are the recent high prices and incomes for several agricultural products, especially grains, and the nature of the institutional structure within which farmers have operated in an inflationary period. The impact of foreign investors, the demand of urbanites for recreational land, and the loss of prime farm land to urban sprawl are often ascribed as reasons but are relatively minor influences in the agricultural economy as a whole. In fact, most of the demand for agricultural land has come from within the farm community itself--usually neighbouring farmers and, we suspect, typically larger operators who already had an established base, who were relatively debt free, and who suddenly were faced with larger incomes. A major cause, then, of the rapid increase in farm land values, at least in the prairie region, has been the capitalization of the unprecedented high prices and net incomes of cash grain farmers in

recent years into the value of a relatively fixed asset. We would conjecture that the pressure to buy land and expand the size of the farm has been primarily related to "income and wealth" effects, rather than to efforts to exploit significant economies of scale. Evidence on economies of scale is scanty for larger-scale operations, but we suspect they are minor once a grain farm has reached two or more sections in size. Not only did larger, established farmers have the increased income and wealth base to purchase land, but investment in real property was likely seen as the best hedge against inflation in the 1970's and as a sound investment when capital gains were also included in the imputed income stream. The economics of buying a costly additional quarter or half-section of land might look poor in marginal accounting terms (comparing the present value of the expected realized net income stream from the additional unit of land with its cost), but the established operator was able to absorb this high-cost addition within his existing farm, financing it out of his internal savings and the anticipated net revenues from the entire operation.

The farm family could also reap the benefits of a major portion, if not all, of the capital gains because the Canadian tax structure taxes capital gains at a lower rate than earned income and capital gains taxation can be avoided on father-to-son transfers. In this regard, we agree with the position that an incorporated family farm should face the same tax situation in intergenerational farm transfers as a non-incorporated family farm. However, the question here is whether larger family farms, incorporated or not, should be able to avoid

capital gains taxation in intergenerational transfers or, for that matter, other forms of taxation. The possible advantages of keeping farm units intact in such transfers must be weighed against the social disadvantages of ignoring inequality in the distribution of income and wealth in the agricultural sector and in Canadian society.

Although income concentration is less than in U.S. agriculture, there is considerable inequality in the distribution of income and wealth in Canadian agriculture. Unfortunately, our empirical data base on inequality and on changes in inequality over time is relatively weak and fragmented. There is some census information (not collected in 1976) which shows that the distribution of gross agricultural sales became increasingly concentrated over the 1950's and 1960's (see Table 2). The analysis of farm taxfiler information for non-incorporated farms in 1971, 1973, and 1974 (Agriculture Canada, 1977a) also provides valuable insights. The taxfiler statistics underline the significance of off-farm income to the welfare of farm families; for instance, off-farm income constituted 72 and 56 percent of the total income for farm taxfilers in 1971 and 1974, relatively weak and buoyant years for on-farm income, respectively.

It is clear that there continues to be a substantial poverty-level segment in Canadian agriculture. Even in 1974, a year which had close to record levels of real total cash receipts and net farm income, some 36 percent of Canada's 395,000 farm taxfilers had total net incomes of less than $5,000. Of this poverty-level group, slightly over half were small farmers who derived more than 50 percent of their income from farming. The relative incidence of poverty was highest in eastern Canada,

but the absolute numbers of poverty-level farm taxfilers were highest in Ontario, Alberta, and Saskatchewan in 1974. The available Gini coefficients measuring the degree of inequality in the distribution of net income from all sources for farm taxfilers in the 1970's indicate no conclusive trend in income concentration.[2] It is interesting to note that in 1974 income concentration for farm taxfilers with primary dependence on farming (some 60 percent of all farm taxfilers) was greater than for the group as a whole, an indication that income from on-farm sources was more highly concentrated.

In any event, we strongly suspect that the degree of inequality in the distribution of income and wealth in Canadian agriculture has not improved and, in all likelihood, has worsened over time. The dichotomization of Canadian agriculture into a commercial farm sector and a poverty-level sector has long been recognized (Federal Task Force). The events of the 1970's appear to have led to an increasing domination of Canadian agriculture by the larger commercial farms.

Agricultural policy in Canada has been especially weak in dealing with poverty problems, income distribution issues, and wealth concentration in the agricultural sector. In broad terms, Canadian agricultural policy has attempted to deal with the historic low income problem in agriculture by adopting price and marketing programs which deal with farmers on a commodity group basis and which do not clearly differentiate the needs of the poor from the not-so-poor within agriculture. This is not a new problem in North American agriculture (Brandow), but it is certainly an enduring and continuing issue in the United States (Penn in U.S. Department of Agriculture) and Canada

(Veeman and Veeman).

Admittedly, the level of government intervention and, particularly, direct price support in Canada has been, and remains, relatively modest compared to most rich industrial nations, including the United States (except perhaps during the "Butz era"). Our most highly subsidized agricultural sector is the dairy sector with 1977-78 dairy program costs estimated at 325 million dollars. We hope that there will be a re-examination of dairy policy in Canada within the next few years, but political and regional realities may militate against major policy changes.

There is some recognition by economists that the low income problem in agriculture may need to be solved more selectively through such "people programs" as targetted and graduated assistance to low income producers, guaranteed annual income plans, or negative income tax schemes, rather than across-the-board commodity programs that influence the incomes of all producers (typically in proportion to the output or productive base of the farm unit). However, the political feasibility of such new initiatives appears limited. Canadian society has been slow to deal with issues relating to poverty and income distribution. Moreover, governments, particularly in times of fiscal restraint, are likely to continue to prefer agricultural programs that limit direct treasury costs and involve the transfer of indirect subsidies from consumers to producers, as we currently see in some marketing programs based on supply management and "cost of production" pricing formulae.

During the recent export boom for crops, the general postwar

declines in the importance of the crops sector relative to the livestock economy, and the production sector relative to the marketing sector, were temporarily reversed. Given the respective income elasticities of demand for crop products, livestock products, and marketing services, it is highly likely that these historic declining trends will reappear in the course of future economic growth, unless foreign export demand for grains is especially strong.

The Marketing Sector

A much noted feature of the output markets for Canadian agriculture is the increasing importance of marketing boards. This is a manifestation of producers' efforts to follow a countervailing power philosophy of increasing the extent of their control and market power in the marketing of farm products. The result has been many different types of Canadian marketing boards with very different activities and effects.

The primary objective of most boards is to improve the price and income levels of their producers although the reduction of market uncertainty and of price and income fluctuations and the provision of more equal access to market opportunities are important to some boards. Boards can attempt to achieve enhanced price and income levels for their producers by demand expansion, by seeking efficiency gains, and (depending on the extent of their legislatively sanctioned powers) by the exertion of bargaining power. The potential benefits are often more obvious in the latter case especially where these are extracted from consumers (if the board has effective monopoly power including power to divert or limit supplies) and from government (if the board

is an effective lobbyist) although bargaining power gains may also be sought from the marketing and servicing sectors (where these possess and use oligopsonistic power).

Public controversy in Canada has centred upon the more restrictive supply-managing boards, particularly the boards for poultry and dairy products. These boards have limited supplies through quotas and have administered prices, generally on the basis of cost-related formulae. They have raised and stabilized their producers' prices though at the cost of increased consumers' prices, lessened export opportunities, adverse effects on allocative efficiency and, in some instances, detrimental effects on the competitive characteristics of processing (Veeman and Loyns). The need to increase the extent of consumer and public accountability of these boards continues, whether through more public representation on them, or through limitations on the extent of their powers and effects (such as allowing competition from imports and limiting price increases when quota values rise to the excessive levels that now apply for some products).

The majority of Canadian marketing boards are less restrictive in nature. Although there are examples of inefficient and ineffective operations, a number of these boards have provided benefits of improvements in the price discovery process and in pricing efficiency, some off-setting of oligopsonistic power, and improvements in producer confidence in the marketing system. Economists' criticism of supply management boards should not be construed as an attack on marketing boards in general. Marketing boards can be effective policy instruments.

Turning to the other facets of the output markets for Canadian agriculture, it is apparent that the relatively small size of the domestic market and (except for the Montreal and Toronto areas) its wide geographic dispersion have significant effects on the structure and organization of the processing and distributing sector. Based on national concentration data (Department of Consumer and Corporate Affairs; Statistics Canada, 1977), some one-third of the Canadian food and beverage processing industries fall into the category characterized by Bain as "highly concentrated" while the remaining industries can be categorized as "moderately concentrated" or "slightly concentrated". However, the latter two categories include such industries as meat, dairy, and poultry processors, frozen fruit and vegetable processors, fruit and vegetable canners and preservers, feed manufacturers, and bakeries for which national concentration data understate, in many instances grossly, the extent of regional concentration and of effective competition. Concentration in the processing of Canada's major non-food agricultural product, tobacco, is high. Although comparison is not aided by the feature that the Canadian industries are more broadly defined than in the United States, concentration levels of the industries in this sector are markedly higher in Canada. Time series data in this area are scanty in Canada, but comparison of Rosenbluth's earlier study with recent measures indicates that concentration in the Canadian food and beverage processing industries has shown an increasing trend over the past three decades (Department of Consumer and Corporate Affairs). As Morris has noted, the relatively high levels of concentration that prevail in this sector cannot be

ascribed to product differentiation, lack of capital availability, or to the extent of economies of scale per se. An additional structural feature of importance is the high degree of trade protection which applies to many of the food processing industries (Wilkinson and Norrie).

Evidence regarding the performance of the food and beverage processing industries (Food Prices Review Board) suggests that, except for the extremely concentrated sugar refining industry, the average return on investment cannot be regarded as excessive (although profit rates of some industry leaders are considerably higher than the industry average rates). Nonetheless, there is evidence in many Canadian food processing industries of relatively poor performance in terms of economic efficiency. There are widespread examples of lags in the adoption of technological advances and instances where available economies of scale are not achieved. Excess capacity is prevalent in a considerable number of these industries. The sector as a whole has a relatively low level of expenditure on research and development. The problem of unsatisfactory performance with respect to the achievement of economic efficiency is not confined to the food and beverage processing industries but is common throughout much of the Canadian manufacturing sector. As Safarian has pointed out, these limitations fundamentally reflect the relatively small scale of this protected market and of firm size.

Turning to the food distributing sector, there is evidence (Dooley, Mallen) of high and increasing levels of concentration in the retail grocery industry. Backwards vertical integration by the major corporate chains into wholesaling and processing is increasing. There are significant regional differences in urban concentration levels and

these are associated with differences in margins and prices. Mallen concludes that entry barriers to shopping centre sites and the economies of local advertizing are the causes of the relatively high concentration levels in this industry and that there are associated adverse impacts on performance of, first, higher profits and excess capacity (overstoring) which contribute to higher prices and, second, less product variety and less (free) service.

In contrast to the processing sector, markets for off-farm purchased inputs are largely unprotected by tariffs. Even so, this sector is also composed of oligopolistic industries. Economies of scale are extensive for a number of these industries (e.g., some farm machinery items, fertilizers, and agricultural chemicals) and have been a factor encouraging the development of multinational giants, most of which are foreign based. There is a high import component for a number of these products (e.g., pesticides and farm machinery). Instances of imperfect market conduct are provided by the historical evidence of market separation and price discrimination towards the Canadian market for some farm machinery items (Barber) and the alleged price collusion by fertilizer companies (including a major Canadian cooperative).

The relatively small scale and dispersed nature of the Canadian domestic market raise problems in the formulation of industrial policy. Within the limits of market size and given available economies of specialization and scale, high levels of concentration are inevitable in many Canadian industries. While this raises the problem of pricing inefficiency stemming from a high degree of market power, it by no means (as implied by the summary above) ensures attainment of technical

efficiency. The prescription of increasing competition by reducing the levels of tariff and non-tariff protection afforded the manufacturing sector is both obvious and long-standing. However, as the example of the largely unprotected farm input supply sector indicates, this is only a partial answer to the problem of formulating an adequate Canadian industrial policy. The (necessary) move to lowered levels of protection is constrained by concern over the extent of foreign ownership and control in the economy, the regional implications of less protection (not so evident in the food processing industries as with some other industries), and worldwide evidence of increasing protectionist tendencies. Given the current economic and political pressures facing the federal government, major changes in this area are unlikely in the short-run and, in fact, added protection for some processed foods (fruit and vegetable products) seems likely.

The other facet of providing for enhanced competition is through reform of the historically weak Canadian anti-trust legislation. Major legislative changes to this end were proposed seven years ago but were withdrawn and extensively revised in response to massive pressures from business. Consequent amendments to the legislation were made in 1975 but the most significant proposals for change are still pending. The revised competition legislation is unlikely to have any major effect on the existing high levels of concentration and may, in fact, sanction increased concentration levels where these are likely to increase technical efficiency (Stanbury). The legislation (including the proposed changes) does, however, have the potential to limit a wide variety of anti-competitive practices although only time will tell whether this

potential is realized.

Foreign trade is the other significant component of the Canadian agricultural marketing sector. Some 40 percent of Canadian agricultural products are exported; these exports account for about 11 percent of all Canadian exports. Grains (particularly wheat) are the dominant agricultural exports. Agricultural imports account for some 8 percent of total imports. Nearly 30 percent of agricultural imports are accounted for by fruits and vegetables; sugar, tea, and coffee account for 18 percent and meats for 11 percent (1976).

Recent well publicized (but, to our minds, overly pessimistic) concern has been expressed by some agrologists that Canadian agriculture is losing its competitive position. It is the case that the Canadian manufactured goods sector has declined in international competitiveness--a feature which has been attributed by the Economic Council of Canada to excessive increases in unit costs, a lack of entrepeneurial initiative, and insufficient modernization of industrial structure (and these features may well apply to the fruit and vegetable processing industries). It is not, however, at all clear that there has been a decline in the competitive position of those agricultural products for which Canada appears to have a comparative advantage. The more pessimistic view of the trade performance of Canadian agriculture is based on the feature that there have, over the 1970's, been substantial increases in the importation of fruits, vegetables, and manufacturing beef and, more recently, increasing net imports of pork. These features have led to pressures to increase trade barriers for these products.

The trade deficit in pork which has applied since 1975 is largely explained by the more attractive market prices which have prevailed for barley sold as such since 1973; together with the operation of the hog cycle, this feature is the basis of the downward movement in hog slaughterings (reversed in 1977) and of the regional shifts in the location of hog feeding away from the prairies. The level of imports of fruits, vegetables, and manufacturing beef is a more major and continuing question. There have been substantial increases in the per capita consumption levels of fresh fruits and vegetables and of beef in response to increasing real levels of income and taste changes. Imports of these products now account for a larger market share than in the 1960's, but there is no evidence from the available data of a consistent upward trend in the market share of these imports over the 1970's. In any event, relative to the major exporters of fruits, vegetables, and manufacturing beef, Canada is at a comparative disadvantage (except for cool temperature horticultural crops) in these products (Agriculture Canada, Vol. 1, 1977, p. 23). On efficiency grounds, it is doubtful that a policy of further encouragement of import substitution should be condoned.

The primary agriculture sector has a low degree of protection compared to the manufacturing sector but a tendency towards increased protection is evident and is increasing. In common with many, if not all, other countries, there is an ambivalent Canadian attitude to trade which involves the advocation of lessened trade restrictions facing the commodities for which we have a comparative advantage and a tendency to increasingly protect those commodities and activities for which we do

not. Canada, especially western Canada, has a strong vested interest in promoting freer agricultural trade and our international bargaining stance to this end is weakened by our position with industries such as dairy products, fruits and vegetables, and, more particularly, the manufacturing sector.

The grains and oilseeds sectors are by far the most important in the context of Canadian agricultural exports. A major point of contrast between the United States and Canada is the system of centralized marketing for Canadian grain exports. The full benefits and costs of the two systems are difficult to compare (Schmitz and McCalla) although it is apparent that the Canadian system has contributed to stability and equity within the grains sector and is supported by the great majority of Canadian producers. There is, however, recognition and voluminous documentation of a number of problems and issues in the handling and transportation system. Major issues here concern the extent and the administration of rail-line abandonment throughout the prairies, the need for added investment in transportation and handling facilities, and the associated question of the extent and incidence of the benefits and costs involved in the statutorily determined Crow's Nest Pass rates which apply to grain moving to export positions. These issues have major implications for regional development. The Crow rate issue, in particular, involves complex equity questions and cannot be solved entirely on efficiency grounds.

To a considerable degree, the evolution, general prosperity, and policy concerns of Canadian agriculture in the 1980's will be tied to the nature and strength of foreign demand for Canadian agricultural exports.

The future dimensions of the world food problem and the role for food exporters such as Canada and the United States are extremely uncertain. On the one hand, there are estimates by FAO, USDA, and IFPRI that the "dependence gap" between food production and effective demand in the poor nations is growing and may approach 72 million metric tons by 1985--with some observers reading into this scenario the likelihood of strong export demand for North American grains and rising grain prices. On the other hand, we note the relatively short run nature of the recent world food crisis; the re-emergence of grain surpluses in exporting nations; the potential productive capacity of rich nation agriculture, given strong economic incentives; the considerable growth but great instability of Russian agriculture; and the recent improved performance and self-sufficiency of Indian agriculture, aided by four consecutive good monsoons. Among Canadian observers, the Economic Council of Canada has rather pessimistic views and the Canadian Wheat Board, moderately optimistic views on future grain exports. Our own view of this uncertain picture is that Canadian grain exports will experience only modest secular growth, but will be very unstable. Although poor nations may face growing deficits in grains, Canada is more apt to face growing grain surpluses in the 1980's. A priority research task should be to gauge the relative strength of export demand in the centrally planned economies and the developing market economies.

Conclusion

The current structure and organization of Canadian agriculture has evolved out of a complex set of biophysical, economic, social, and institutional forces. In the future, the primary production sector will

be characterized by fewer, larger, and predominantly family-oriented farms. The farm sector faces continued income instability and uncertain secular market prospects. A host of federal and provincial programs seek to reduce the extent or impact of price and income variability, but there has been a growing tendency for some of these programs to move into income enhancement on a commodity basis with little attention paid to income distribution consequences. Primary agriculture in Canada has evolved as a relatively efficient sector, but increasing policy attention must be paid in future years to questions of income and wealth distribution. The Canadian agricultural marketing sector is an increasingly concentrated sector. Canadian policy will be hard pressed to gain the advantages of technical efficiency in a small and dispersed market without extensive societal regulation to attain pricing efficiency.

Canadian agricultural and food policy must deal with many issues which we have not adequately discussed (see Loyns and Warley for recent domestic and international perspectives, respectively). One such issue is food price inflation, a major contributor to overall inflation in the Canadian economy at the moment. Increasing policy attention must also be paid to environmental considerations, land use planning, and increasing energy costs, although these aspects do not alter our basic judgment that Canadian agriculture is more constrained by demand, rather than supply, factors in the foreseeable future.

Solutions to Canada's agricultural and economic problems must be forged within the confines of our continuing debate on constitutional and national unity issues--including the questions of the possible

separation of Quebec, the historic alienation of western Canada, and the evolving role of government in a federal state. Canadian policy must increasingly deal with regional considerations which involve the delicate balancing of provincial demands for more autonomous policy-making and for further decentralization of services with the need for more indicative planning at the central level, greater harmonization of provincial programs (as with current "stabilization" programs), and the avoidance of balkanization in production and interprovincial trade. At a time when taxpayers seem to want less, and not more, government, the development of policy for agriculture will be no easy task.

FOOTNOTES

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[1]The figures in Table 1, which are estimated on a per holding rather than a census farm basis, facilitate comparison of change in Canadian agriculture over time because they incorporate the relatively large numbers of farms with sales below $1200 in earlier census years; however, they underestimate, by nearly 10 percent, the capital values of census farms in 1976. A further cautionary note is that per-holding and per-man data must be interpreted with care, given the prevalence of part-time farming and off-farm income in the agricultural sector.

[2]The Gini coefficients are 0.557, 0.495, and 0.514 for 1971, 1973, and 1974, respectively. The increased degree of equality between 1971 and 1973 may be due to the greater availability of off-farm work and perhaps also to the relative stages of various product cycles.

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TABLE 1. CHANGES IN CANADIAN AGRICULTURE, 1951-76

Item	1951	1961	1966	1971	1976
Number of agricultural holdings	623,091	480,903	430,522	366,128	338,578
Number of farms with sales of $1200 or more[a]	387,072	354,107	338,559	299,868	300,118
Average farm size (occupied acres per holding)	279	359	404	463	499
Real capital value per holding (1971 dollars)	23,030	36,519	53,062	65,736	113,174
Real value of land and buildings per holding (1971 dollars)	13,441	23,908	36,647	46,257	86,397
Real capital value per man (1971 dollars)	1,529	2,579	4,199	4,719	8,084
Real net farm income per holding (1971 dollars)	4,696	2,568	5,331	4,411	8,161
Agriculture's Share of total GDP (percent)	11.8	4.2	5.3	3.4	3.3
Agriculture's share of labor force (percent)	18.4	11.2	7.6	6.3	5.0
Share of consumer expenditures on food (percent)	22.9	18.6	17.0	15.4	15.2
Agricultural exports (million dollars)	1,020	1,193	1,862	1,993	1,960
Share of grains and oilseeds in exports (percent)	72.6	81.0	74.9	73.3	75.9
Agriculture's share of total exports (percent)	26.1	20.7	18.5	11.5	10.6
Share of agricultural production exported (percent)	37.3	40.8	43.2	43.7	39.4
Share of total cash receipts from crops (percent)	41.6	38.0	41.2	38.2	46.0

Sources: Compiled from Statistics Canada, Census of Agriculture, 1976; Agriculture Canada, Selected Agricultural Statistics for Canada; and Statistics Canada, National Income and Expenditure Accounts.

[a]This size category corresponds to the definition of a census farm introduced in the 1976 Census.

TABLE 2. DISTRIBUTION OF FARMS AND OF TOTAL FARM SALES IN CONSTANT 1961 DOLLARS, 1961, 1966, and 1971[a]

Sales Class Range	1961		1966		1971	
	Percent of Farms	Percent of Sales	Percent of Farms	Percent of Sales	Percent of Farms	Percent of Sales
Less than $2,500	46.0	9.9	38.6	5.5	32.1	3.2
$2,500-$4,999	24.7	18.3	20.1	10.6	17.9	6.7
$4,999-$9,999	18.8	26.8	22.5	23.8	24.5	20.5
$10,000 and over	10.4	45.0	18.9	60.1	25.4	69.7

Source: Computed from Jones and Tung, pp. 22-23.

[a]The data for 1966 and 1971 are adjusted to take into account price-change effects; both the number of farms by economic class and the value of products sold by economic class have been adjusted to compensate for the increase in farm product prices relative to 1961.