

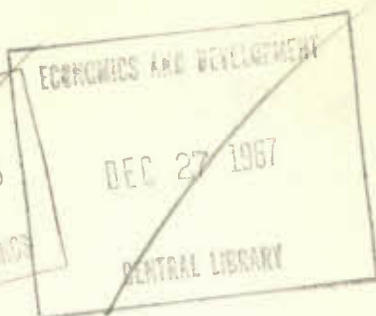
# Conference on International Trade and Canadian Agriculture

*Banff, January 10-12, 1966*

*Sponsored by  
Economic Council of Canada  
and  
Agricultural Economics Research Council of Canada*







CONFERENCE ON

INTERNATIONAL TRADE AND CANADIAN AGRICULTURE

Banff, Alberta

January 10-12, 1966



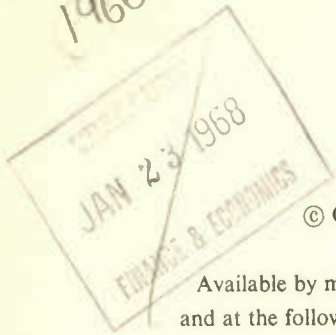
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## FOREWORD

This volume is a report on the Conference on International Trade and Canadian Agriculture that was convened by the Economic Council of Canada and the Agricultural Economics Research Council of Canada in January, 1966. The objectives of the Conference included: the preparation of a set of authoritative studies, the examination of the problems and issues by invited representative leaders and professionals of farm organizations, industry, labour, the economics profession, government officials and consumers, the preparation of a Conference statement setting out the main findings, and the publication of an objective assessment of the Conference discussions.

A number of developments during recent years had led the two Councils to the position that a thorough review of matters related to Canada's international trade in agricultural products was needed. These developments include: the general tightening in the world food situation, the changes in international trade in agricultural products, the measures taken in a number of countries that have affected agricultural trade, and the large Russian, eastern European and Chinese imports of grain in recent years.

Each of the Councils had an interest in such a Conference. The Economic Council acted as one of the sponsors because of its concern with policies to foster the growth of the Canadian economy including Canadian agriculture and with studies of how changes, including those in the international sphere, affect employment and income generally and in particular industries. The Agricultural Economics Research Council co-sponsored the Conference as part of its research programme to develop information which will serve to assist in making long-term policy decisions for agriculture.

The various studies and reports referred to above are included in this volume, along with Opening and Closing Remarks, a copy of the Conference Programme and a list of the Participants. Some of the material has already been released to the press. The background studies which were commissioned jointly by the two Councils were released in advance and the statement was released immediately after the close of the Conference. They are included here with the other material in order to provide a complete set of the material relating to the Conference.

The two- and one-half day Conference, which was held at the Banff School of Fine Arts on January 10-12, 1966, consisted principally of discussion by the 85 participants based on the subject matter covered in the background papers; these had been sent to participants ahead of time. There was ample opportunity for a full and frank exchange of information and views.

In convening the Conference it was the hope of the two Councils that it would contribute to an improvement in understanding how to approach some of these important matters of agricultural trade and Canadian agricultural policy. The publication of this volume is intended to facilitate continued study and discussion of these matters. This process is most important at the present time in the light of the extensive attention that is being given to international trade and world food problems.

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## OPENING REMARKS

by

John J. Deutsch, Chairman  
Economic Council of Canada

The Economic Council, concerned as it is with how this country can best accomplish a high and consistent rate of economic growth, is vitally interested in the role of agriculture in this process. The Agricultural Economics Research Council has as one of its major functions the development of information which will serve to assist in making long-term policy decisions for agriculture.

In a general way it can be said that we understand the magnitudes of the increases that are likely to occur in the domestic demand for agricultural products. We know much less, however, about the external demand for Canadian farm products or the role of imports in filling the domestic demand. Each of you who have accepted our invitation to participate in this Conference has an important interest in these agricultural trade questions, and with the trade policy objectives and domestic agricultural policy objectives that are pursued by Canada.

The matters on which we will be exchanging information and views over the next few days are of great importance. While world trade has expanded rapidly over the past decade, it has largely been due to increased trade among the advanced countries. Furthermore, while the volume of world trade in agricultural products has grown rapidly during the past decade, it has not grown as fast as trade in manufactured goods and most of the increase in the volume of agricultural exports has been from the developed regions of the world. In the developed regions agricultural output per capita has



increased. In the less-developed countries, however, while food production has increased considerably, the production increase has in the main been wiped out by further acceleration of population growth during the past decade.

These developments and others in the general trade and international monetary fields underlie many of the trade matters which are currently being considered by national governments and international agencies. The problems associated with agricultural trade are of extreme importance in the current Kennedy Round of negotiations being conducted under the General Agreement on Tariffs and Trade and a whole new approach to trade in agricultural products is being discussed. There is also the basic discontent of the less-developed countries that gave rise to the 1964 United Nations Conference on Trade and Development and the permanent structure that is being established as a result of that Conference. There are also the continuing efforts of the Food and Agriculture Organization towards solving the world's problems of food production and distribution. Its current emphasis is on an Indicative World Food Plan on which work was started recently. The World Food Programme is also being extended and expanded. In addition to such organizations, attention is being given to these problems by the International Federation of Agricultural Producers, the International Conference of Free Trade Unions and many other groups. Also, in the rapidly changing situation that we find ourselves in today, governments of individual countries are having a new look at these urgent problems. For example, a thorough re-evaluation of United States agricultural policy is apparently under way.

"The State of Food and Agriculture, 1965", recently published by FAO, reviews the second post-war decade and considers the world food outlook for the years ahead. The following paragraphs are from that review.

"In the last ten years, the world's population has grown by about a fifth, representing an average annual rate of increase of 2 percent, which is much faster than ever before in history. In a number of developing countries the annual increase now exceeds 3 percent. This faster population growth has come mainly from substantial decreases in mortality, as a result of the improvement of medical services and advances in medical science. Mortality rates are likely to fall further, especially in the developing countries, and this will accelerate their population growth still more. Moreover, the growing proportion of young people in the population as a result of recent population growth will tend to raise birth rates.

"The world population is now about 3,300 million, and the latest United Nations projections (still provisional) indicate a population of the order of 5,300 to 6,800 million at the end of the century in only 35 years' time, with a figure near 6,000 million as the most likely expectation. Of this total, almost 80 percent would be in the poorly nourished developing countries.

...

"Merely to keep pace with the expected population increase without any improvement in diets would require total food supplies to be almost doubled by the year 2000, but present dietary levels in the developing countries are so inadequate that actual needs are far greater than this. Of the present world population, 10 to 15 percent are undernourished and up to half suffer from some degree of hunger or malnutrition or both, according to FAO's Third World Food Survey. The survey sets targets for nutritional improvements which would involve increasing total food supplies in the developing countries to four times the recent level, and their supplies of animal products to six times this level by the turn of the century."

These excerpts from the FAO report underline the enormous world needs for food in the years ahead. As the projections indicate, the world's population may be double what it is now by the end of this century. This would be a much more rapid rate of increase than the 60 per cent that occurred over the past 35 years. In the past, food production has increased rapidly enough to enable some increase in over-all per capita food production. The annual rate of increase in world agricultural production has averaged close to 2.0 per cent over the past 25 years, in comparison with a 1.5 per cent per annum increase in population. But the situation

differs greatly between the advanced countries and the less-developed countries, where about two thirds of the world's population now live. The population increase in the less-developed countries over the past decade has been 26 per cent. Over the same period agricultural production in these countries increased by only 30 per cent. In the developed countries population increased by only 13 per cent while agricultural production increased by 28 per cent. How the future needs of the less-developed countries are to be met is probably the most perplexing problem facing the world today. In the developed countries agriculture has been going through a rapid transformation, with substantial increases in productivity. Similar increases have not been attained, however, in the agriculture of the less-developed countries. It has proved more difficult than expected to apply in the developing countries the technological advances that have already had such an impact on the agriculture in the more developed parts of the world.

These are the realities of the new world picture which confronts us. We have to develop trade policies which will contribute to a solution of these problems. These would also be in our own interest. We know that Canada's future in world trade is dependent on rises in incomes throughout the world. And many of the agricultural products that Canadian farmers are able to produce efficiently are those that would be in great demand if incomes could be raised in countries where they are now very low. Trade policies are required which will enable the less-developed countries to participate more fully in the expansion of world trade. Improvements here would open up avenues for Canada to share in the food production increases that are going to be required.

There is also scope for expanded programmes of aid to the less-developed countries. Our participation in external aid activities that contribute to the development of low income countries can, of course, also be in our own long-term interests. And food aid has an important role in an over-all aid programme, although it should not be extended to the point where it is a deterrent to increasing agricultural production in the recipient countries. The capacity for agricultural production in the developed countries is by no means great enough to meet the expanding food needs of the less-developed countries. Most of the needed increase in food production for the expanding population of the less-developed countries must take place in these countries. This suggests an expanded role for technical assistance which takes cognizance of the differing character of the productive capabilities in each of these countries. Canada should offer leadership in approaching these problems and in developing international institutions which can effectively cope with them.

The approaches taken to these external policies also affect domestic agricultural policy. It is obvious how interwoven the domestic and foreign agricultural policies of most developed countries have become. It is thus a necessary part of our discussions at this Conference to deal with the implications for domestic agricultural policy of suggestions made with respect to agricultural trade and aid policies.

One of the main purposes of this Conference is, through an exchange of views and information, to enhance the contribution that Canadians at many levels can make to the solution of these very difficult world problems. These matters do, of course, also have an enormous bearing on the prospects for economic growth and development of the Canadian economy.

External expansionary forces have played an important role in the substantially improved performance of the Canadian economy over the past few years. And agricultural product exports, while not increasing as rapidly as have more highly manufactured product exports, still make up a large part of Canada's exports. Furthermore, they have during the past year been a major contributor to the maintenance of the increase in Canada's exports. Except for wheat, however, our share of world agricultural exports has been declining.

In the attention which is currently being given to international food and agricultural problems there are extensive opportunities for Canada to offer leadership. As one of the very few countries potentially able to produce a considerable amount of food over and above its own requirements, our position is of considerable importance. We should participate fully in attempting to solve the many vexing problems of food production and distribution throughout the world.

# AGRICULTURE AND INTERNATIONAL TRADE: PRINCIPLES AND REALITIES

by

John H. Young

Professor of Economics  
University of British Columbia

It has been suggested to me that this could be a very short paper. After all, it was pointed out, the central principles of trade, both international and domestic, have not changed in many a decade. These principles indicate that economic welfare will usually be maximized under a system in which prices are set at the levels which would prevail in competitive markets and the resulting allocation of resources is that which would exist under a competitive system. No exception is made in these principles for agriculture and thus there is no need to treat agriculture as a special case.

The description of the realities, it was suggested, could be equally brief. All countries interfere with the free flow of international trade and in recent decades most governments have intervened directly in the markets for agricultural commodities. Thus barriers to the international movement of agricultural commodities are in many cases high or prohibitive in order that domestic programs of price support or production control will not be frustrated by foreign competition.

There is thus a sharp conflict between principles and realities. This conflict should obviously be resolved in favour of the principles and the brief conclusion drawn that governments should withdraw from agricultural markets and seek the economic gains which would flow from domestic and international competition in the production and sale of agricultural commodities.

I think you will agree that this is a brief answer but the more important question is whether it is an adequate answer. Much of the rest of this paper will be devoted to that issue.



## I - WELFARE ECONOMICS AND THE PRINCIPLES OF TRADE

The first question to ask is whether the central principles of trade have in fact remained substantially unchanged and whether they are as simple as suggested. In discussing this question, I should like to confine the analysis to the advanced commercially-oriented countries of the world; that is, to the North Atlantic countries plus Australia, New Zealand and Japan. This does not mean that we shall leave aside consideration of the less-developed countries or the Communist countries. It does mean, however, that in this paper no attempt will be made to grapple with the controversial issue of the commercial policies suitable for the less-developed countries. In recent years many have questioned the applicability of the principles of classical liberalism to the problems of the less-developed countries but this is not the question which we shall be discussing here.

It is not only in applications to the less-developed countries that attacks have been forthcoming on the principles of classical liberalism. Over the course of the last two generations, major efforts have been made within the mainstream of traditional economics to show the limitations of these principles. One strand of this body of critical comment has stressed the extent to which recommendations on economic policy are dependent upon fairly specific value judgments. While it is probably true that the dependence on value judgments was always recognized, it was thought that the value judgments required were very broad indeed. For example, consider the following general conclusion of Adam Smith's on the allocation of resources<sup>1/</sup> written almost two hundred years ago.

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<sup>1/</sup> Adam Smith, The Wealth of Nations, Book IV, Chapter IX, 3rd para. from end.

"Any system which endeavours, either by extraordinary encouragements to draw towards a particular species of industry a greater share of the capital of the society than would naturally go to it; or by extraordinary restraints to force from a particular species of industry some share of the capital which would otherwise be employed in it ... retards, instead of accelerating the progress of society towards real wealth and greatness, and diminishes, instead of increasing, the real value of the annual produce of its land and labour."

It is evident that Smith was directing his remarks to those who could be expected to be in favour of increasing the wealth of nations and his successors did the same. They did not, however, feel the need of adding further assumptions. There was, contrary to the popular image, a genuine concern on their part for the economic welfare of the lower income groups, but interferences with the market mechanism were considered likely to harm rather than help the position of these groups. Thus, after discussing the economic laws regulating wages, David Ricardo, writing in the early nineteenth century, concluded:

"Like all other contracts, wages should be left to the fair and free competition of the market, and should never be controlled by the interference of the legislature."<sup>1/</sup>

As one follows the mainstream of British economic thought in the late 19th and early 20th century, one finds significant changes in the analysis of the operation of the market mechanism but little recognition of the extent to which the policy recommendations emerging from this analysis were dependent upon value judgments and other generalizations not amenable to scientific tests. This was notably the case with respect to interpersonal comparisons of utility, i.e., comparisons of the amount of satisfaction derived from income or consumption by different individuals or groups of

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<sup>1/</sup> David Ricardo, Political Economy and Taxation, Chapter V.



individuals. Any changes in economic policy will ordinarily have a differential effect on various individuals or groups of individuals. Some will find their incomes favourably affected and others will find their economic position worsened. If the satisfactions of different groups of individuals can be compared, then it is possible to match the increases in utility realized by the gainers against the loss of utility suffered by the losers. At around the turn of the century, Alfred Marshall was prepared to offer the following two generalizations relating to interpersonal comparisons: <sup>1/</sup>

"...it would naturally be assumed that a shilling's worth of gratification to one Englishman might be taken as equivalent with a shilling's worth to another 'to start with' and 'until cause to the contrary was shown'."

"...a pound's worth of satisfaction to an ordinary man is a much greater thing than a pound's worth of satisfaction to an ordinary rich man."

These generalizations were put forward in a qualified way as applying to "the average of large numbers of people" and not to specific individuals but without these basic generalizations Marshall would have been unable to put forward most of his observations on policy.

Much the same applies to Professor Pigou's conclusions in the Economics of Welfare but with the difference that once the analysis had been cast in a more formal framework it was more vulnerable to attack.<sup>2/</sup> Such an attack was forthcoming in 1932 when Lionel Robbins published his Essay on the Nature and Significance of Economic Science. Robbins made no claim to

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<sup>1/</sup> Alfred Marshall, Principles of Economics, Eighth Edition, p. 130.

<sup>2/</sup> There is an analogy here with the quantity theory of money and the theory of price competition. When the quantity theory of money was formalized by Fisher and Marshall in the latter part of the 19th century, the equations began to be examined critically and the theory to be questioned. The same thing occurred when the broad notion of price competition was formalized into the theory of pure competition and questions were raised about the applicability of such an over-simplified theory to the real world.

originality but by restating in a vigorous way the desirability of a sharp separation between scientific propositions and other propositions in economics he launched a basic attack on the kind of welfare economics developed by Marshall and Pigou. In particular he attacked the notion of interpersonal comparisons of utility by arguing that "there is no means of testing the magnitude of A's satisfaction as compared with B's".<sup>1/</sup> As he put the same point in the preface to the Second Edition: "I contended that the aggregation or comparison of the different satisfactions of different individuals involves judgments of value rather than judgments of fact, and that such judgments are beyond the scope of positive science."<sup>2/</sup> Robbins' Essay provoked very sharp reactions with assertions being made that the acceptance of these views destroyed the usefulness of economics. Efforts were then made to see how far it was possible to make recommendations without relying on interpersonal comparisons of utility.

A body of analysis which had been developed by Vilfredo Pareto appeared to offer a way out. Pareto had avoided interpersonal comparisons of utility and defined an optimal position as one for which no change could be made which could benefit everyone.<sup>3/</sup> This approach seemed to offer a chance

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<sup>1/</sup> Lionel (now Lord) Robbins, An Essay on the Nature and Significance of Economic Science, Second Edition, 1935, pp. 139-140, italics in the original.

<sup>2/</sup> Ibid., vii.

<sup>3/</sup> Vilfredo Pareto, Manuel d'Economie Politique, p. 354. The following is a succinct statement of Pareto's position: "Nous dirons que les membres d'une collectivité jouissent, dans une certaine position, du maximum d'ophélimité, quand il est impossible de trouver un moyen de s'éloigner très peu de cette position, de telle sorte que l'ophélimité dont jouit chacun des individus de cette collectivité augmente ou diminue. C'est-à-dire que tout petit déplacement à partir de cette position a nécessairement pour effet d'augmenter l'ophélimité dont jouissent certains individus, et de diminuer celle dont jouissent d'autres: d'être agréable aux uns, désagréable aux autres."

for a new "welfare economics" which would be able to offer prescriptions but not be open to the charge of being based on fairly specific value judgments. A series of efforts were made by Kaldor, Hicks, Scitovsky and others to construct such a framework, but each such effort was shown to contain within it implicit value judgments which were fairly specific in nature. With successive waves of destructive criticism, there was much talk of the bankruptcy of formal welfare economics and sharp clashes between the critics and those who feared that the weakening of welfare analysis would unduly narrow the scope of economics. Thus writing in 1951 almost twenty years after Robbins' attack on interpersonal comparisons of utility, Professor Pigou wrote:<sup>1/</sup>

"Now if we take random groups of people of the same race and brought up in the same country, we find that in many features that are comparable by objective tests they are on the average pretty much alike; and indeed, for fundamental characters we need not limit ourselves to people of the same race and country. On this basis we are entitled, I submit, to infer by analogy that they are probably pretty much alike in other respects also. In all practical affairs we act on that supposition. ... To deny this is to wreck, not merely Welfare Economics, but the whole apparatus of practical thought. On the basis of analogy, observation and intercourse, interpersonal comparisons can, as I think, properly be made; and, moreover, unless we have a special reason to believe the contrary, a given amount of stuff may be presumed to yield a similar amount of satisfaction, not indeed as between any one man and any other, but as between representative members of groups of individuals..."

Professor Pigou's successor at Cambridge, Sir Dennis Robertson, took the same position, but the vast majority of economists have been unprepared to support interpersonal comparisons of utility as part of formal welfare economics. On the other hand, most economists firmly rely upon interpersonal comparisons in the informal welfare economics they use when considering current issues of economic policy. Indeed, on the face of it it would appear that a charge of hypocrisy or at least a charge of lack of

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<sup>1/</sup> A. C. Pigou, "Some Aspects of Welfare Economics", A.E.R., June 1951, p.292.

consistency could easily be brought against many economists. In their work in welfare economics they have proved to their own satisfaction that as economists they can say almost nothing and, at the same time, they have had no hesitation in voicing their views on economic policy making full use of their prestige as economists to influence opinion.

On the whole such a charge would be unfair. It is true, for example, that at the very time that Professor Robbins was arguing for a narrow interpretation of the scope of propositions in economics, he was a very active and outspoken advocate of particular economic policies. It is also true, however, that he had pointed out explicitly in his Essay that he did not advocate "that economists should not deliver themselves on ethical questions". He had argued rather for the desirability of a clear separation between propositions of different kinds in the interests of more orderly discussion. Other economists who have been more uncompromising in the position that they have taken in discussions of welfare economics often make a point of setting their public pronouncements on policy within the context of a particular set of assumptions. To a considerable extent, however, it is true that the world of formal welfare economists and the world of policy-making have remained more sharply divided than is appropriate, and one of the tasks of the future is to bring them closer together.

What does this brief and over-simplified treatment of welfare economics suggest for the issues with which we are concerned? Perhaps the most important lesson is that explicit and implicit value judgments and other presently untestable propositions play a very important part in determining policy recommendations. Thus, leaving aside all other complications, when it is asserted that steps should be taken over the long run to terminate subsidies to agriculture since the benefits to others will be greater than

the losses to farmers, this implies, among other things, that farmers and non-farmers can for this purpose be treated as broadly similar. Anyone who maintains that farmers and non-farmers should not be treated as broadly similar is plainly going to be little influenced by the rest of the economic reasoning which is used to establish this conclusion.

There is little room for doubt that many who were born and raised on farms do in fact have a hidden assumption at the base of much of their thinking that the farmer is in some sense more deserving than others. Those who have spent many hours in the hot sun cannot help but feel that the discomforts and hazards of farming put this kind of work on a different plane than the soft comfortable life of the city worker. This group is, however, a dwindling minority all over the world. In this generation there are many in the city who spent their formative years on farms and retain an active sympathy for the particular difficulties encountered by farmers. Their children, however, have had little direct experience of farm life and will not share their biases. It can be expected, therefore, that more and more those who feel that farm families, simply because they are farm families, merit special treatment will be a smaller and smaller fraction of the community. If those engaged in agriculture are to receive special assistance from public policy, a case will have to be made which is cast in terms similar to those used by other groups in the economy seeking special treatment.

## II - INTERNATIONAL ECONOMIC ANALYSIS

Before turning to the question of what kind of a case can be made for governmental assistance to, and regulation of, agriculture, it is worth asking whether in general such a case can be made for all industries. We have already seen that support for the free market mechanism entails some

fairly specific value judgments. It may be that placing reliance on the market mechanism also requires turning a blind eye to many deficiencies in the operation of such a system. Since in this paper our principal concern is with international trade in agricultural products, we need to ask whether there are major deficiencies in the free market system as it applies to trade among countries.

The answer to this question offered by some specialists in international economics has changed over recent years. A few years ago there were many who were convinced that most countries of the world were faced by a permanent and intractable "dollar shortage" which would not yield to conventional remedies. At that time, it was widely believed that expensive domestic food production was a desirable substitute for lower cost imported food if dollars were required to pay for the imports. This was not the view taken by the older international trade theorists and they strongly opposed views which to them appeared inconsistent with both theory and experience. They were little heeded, however, and books and articles were still pouring out on the "dollar shortage" when it began to be apparent that if there were a dollar problem it was one of dollar glut. The spectacular failure of the "dollar shortage" school undermined the influence of this type of reasoning and restored a measure of faith in the traditional analysis. For some years less was heard about the desirability of meeting balance of payments problems by import restrictions or the subsidization of import-competing production.

In more recent days, the problems which have been encountered by the Americans in dealing with their balance of payments situation, the recurrent difficulties of the British, and the periodic crises arising in the payments positions of other countries have raised questions on the viability of the existing international financial system. Unlike some of the



"dollar shortage" reasoning, this has not primarily been an attack on traditional analysis. Indeed, some of those who are most concerned with the existing state of affairs are among the most orthodox.

What in effect has happened is the following. The Bretton Woods system envisaged a fixed exchange rate system, but one in which a change in an exchange rate could be made if a country found its balance of payments was in fundamental disequilibrium. In short, there were to be pegs, but the pegs were adjustable. In fact this is not the way in which things have worked out. With the one exception of the devaluations of 1949, there has been a considerable reluctance to make use of this adjustment mechanism.

Opinions differ on the reason for this. In my view, a good case can be made that the adjustable peg system with frequent adjustment in the pegs is unworkable. The problem is that those dealing in the foreign exchange market are continually faced with the possibility that overnight they can gain or lose 10% - 20% on their exchange transactions. It is possible, within limits, to hedge against the likelihood of loss but very difficult to resist the temptation to try for a gain. Since in an adjustable peg system there is no reason to be in doubt on the direction in which a change would be forthcoming, there is no risk of serious loss in taking a speculative position. Thus if there is any reasonable chance that there will be a devaluation corporate treasurers and others are bound to take steps to avoid losses and if possible gain profits for those they represent.

There has been a good deal of hostile comment about the foreign exchange speculator, but the most important speculators I have met are inoffensive gentlemen of moderate means who, however, bear heavy responsibility as trustees of the interests of others. Their principal worry is that they will be shown not to have exercised good judgment in the use of

the funds at their disposal, and in general their actions can be classified as defensive rather than offensive. They can be expected to react sharply to the possibility of a devaluation and if the government of a country has shown an unwillingness to defend its currency against a speculative movement, that currency will be vulnerable to any adverse movement however unimportant. There is thus a tendency to regard a change in the exchange rate as a step which must not be taken lightly. This can easily be extended to the view that this is a step which should only be taken when all else fails. Thus the adjustable peg system can easily become a peg system with the adjustable elements becoming domestic expenditure and prices.

Such a system can work smoothly if nations are prepared to sacrifice a large part of their capacity to determine their own domestic economic policies. Under the classical international gold standard, the basic principle was widely accepted that the gold standard must be preserved and all other policies subordinated to this aim. This is not the case today. We have had ample experience in recent years of the understandable reluctance of national governments to subordinate their domestic economic policies to equilibrium in the balance of payments. If the choice is between high employment with rising prices and international equilibrium, it is only with great reluctance and much delay that countries have typically been prepared to apply the kind of severe domestic measures which will have the desired international effect. This is the dilemma posed by the existing international financial system. Pursuit of domestic policy objectives may for a time be consistent with international equilibrium. The day comes, however, when this is not the case and if, for the reasons cited above, there is great resistance to adjustments in the exchange rate, then a hard choice must be made.



Is there no escape from this kind of hard choice? The short answer is that ultimately there is no escape for a country which wishes to remain part of a fairly open international system. There are, however, two ways in which some elements of flexibility can be introduced into the system. The first is the use by some countries of flexible exchange rates. This system need not be completely general. If all non-reserve currency countries had flexible exchange rates, the reserve currencies would be in effect flexible, except in relation to one another. It is often forgotten that by maintaining a flexible exchange rate system for the Canadian dollar we in effect made the United States dollar flexible for a significant portion of all American foreign transactions. In other words, if the United States were going to lose exchange reserves they were clearly not going to lose them to a country which had adopted a system which ensured virtual stability in its foreign exchange reserves.

We in Canada bear a heavy responsibility for the actions taken in 1961-62 which led to the decline and fall of the Canadian flexible exchange rate system. In the preceding decade we had demonstrated that a major trading country which was a recipient of capital on an enormous and changing scale could carry on its international transactions with an exchange rate which was flexible but moved within narrow limits. If we had retained the system, which with efficient management could have been done, there is no question that those currently considering changes in the international financial system would have had to weigh the strengths and weaknesses of flexible exchange rates. It might have been found that our kind of "constrained" flexible exchange rate system, in which the rate moved but was expected to remain over the years within a fairly narrow range, might well have been a system which would have proved suitable for a number of non-

reserve countries. As things turned out, we threw away our flexible exchange rate through fundamental errors in economic policy-making, and the myth is rapidly being established, both abroad and in Canada, that this conclusively demonstrates the inappropriateness of this type of system. As a result, when, as has been the case in the last two or three years, official consideration is being given to ways and means of improving the international financial system, the discussion explicitly excludes any consideration of flexible exchange rates.

A second way of ameliorating the conflict between domestic and international policy objectives is through an increase in foreign exchange reserves. This lies close to the heart of the discussion of international liquidity. If countries are prepared to have their domestic economic policies dominated by international considerations, or prepared to adapt their domestic policies quickly and forcefully if there is any change in their international position, little need will be felt for a substantial level of foreign exchange reserves or the right to borrow exchange reserves from other countries or international institutions. If, on the other hand, countries are to be in a position to pursue domestic policies which from time to time are a bit out of step with those of their neighbours, or if they are to have a certain amount of time to adapt their domestic policies in the light of a changing international position, then this need for reserves and lines of credit is much greater.

Reserves and borrowing rights can do no more than provide a breathing space and do not change the fact that under a system of fixed rates there is not much room for discrepancies among countries in price trends, and therefore not much room for variation in trends of wages and other factor returns relative to changes in productivity. Nevertheless, the

length of the rein is a matter of considerable importance. A significant measure of international give-and-take can provide countries with a measure of freedom over the short run. If that freedom is not used judiciously, then the rein tightens and the freedom is lost. If, on the other hand, as countries pass through various phases in their international positions they use the periods afforded by reserves and borrowing rights to set in train remedial courses of action, then the discipline of the international system is firm but mild rather than harsh and confining.

What place is there in this system for import restrictions, tariff changes, or subsidization of exports or import-competing production? In particular, to what extent is the subsidization of agricultural output an appropriate device for remedying balance of payments difficulties? Enough has probably been said explicitly and implicitly to indicate that the role of devices such as this is likely to be a small one in an international system which is working well. Over the long run countries must adapt to the international environment and permanently established import restrictions, tariffs, or domestic subsidy programmes alter some of the results of long-term adaptation but do not lessen the need for it. Over the short run, changes in rates or reserves can bridge gaps without the distortions and misallocations which arise from the use of restrictions and subsidies. Emergency situations do occur, however, and in recent years most developed countries have resorted to temporary restrictions of one kind or another.

Agriculture is not, however, the most obvious choice for such manipulation. Many other industries have a shorter production period and can not only respond more quickly to change but can also adjust more readily when the crisis has passed. Similarly, there are many other commodities which are regarded as less essential than food and other agricultural

products. From the point of view of both production and consumption, therefore, agriculture is not an industry well suited for offsetting adverse movements in the balance of payments.

### III - THE SPECIAL CHARACTERISTICS OF AGRICULTURE

We have now looked at two aspects of the principles of trade to see the extent to which it can be said that these principles provide guidance for reaching judgments on the desirability of freer international trade in agricultural products. While it is evident that these principles are not quite as simple and straightforward as suggested in the introduction to this paper, it is not obvious that they provide much support for the subsidizing of agriculture and accompanying restrictions on international trade. We are, however, very frequently told that agriculture has a number of special characteristics which differentiate this industry from others. Some of these characteristics affect the ability of agriculture to perform satisfactorily in the short run, while others have an adverse influence over the long run.<sup>9/</sup> We can do no more than touch upon some of these characteristics in this paper.

The evidence indicates that the extent of short run instability in agricultural prices is greater than in most other industries. This can be attributed, among other things, to the short run price inelasticity of supply and demand, and the fact that short run shifts in the supply of many agricultural products occur in response to changing weather conditions and other short run influences. These characteristics help to introduce a good deal of uncertainty into some branches of agriculture. The farmer must begin by

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<sup>9/</sup> The terms short run and long run are used in a conventional way. Over the long run, plant and equipment can be added or withdrawn from the industry while over the short run changes can only occur within the limits set by existing plant and equipment.

contending with weather, disease and other uncertainties provided by nature. This is only the beginning. He does not know how much he is going to produce but even if he did he would not know what his income was going to be. If things turn out well and the crop is a large one for most farmers, then in the absence of any special stabilizing arrangements high output on the one hand will tend to be offset by a low price on the other. With demand curves for most agricultural products which are inelastic over the relevant portions, an increase in quantity leads to a decline rather than a rise in revenue.

In some industries significant price declines are prevented by reductions in supply. For many agricultural products, however, the short run price elasticity of supply is very low. Once the seed is in the ground a commitment has been made, and given the limited share of total cost involved in harvesting and marketing prices can fall substantially in the short run with little effect on output. Even over a period when production adjustments can be made, the elasticity of supply of agricultural products as a whole tends to be low. A high proportion of all costs are fixed costs and if the farmer and his family are prepared to continue to provide their labour, prices can fall very low without a pronounced effect on output.

With inelastic demand and supply curves, any shift in either demand or supply can lead to wide price fluctuations which if quickly reversed do not help to provide guidance for future production. Thus it is that many economists who wish to minimize the extent to which the government replaces or supplements the free market have been prepared to support measures to reduce short term price instability.

If agricultural policies in the developed countries had not gone any further than the introduction of measures to encourage short run price stability, then little would have been heard about the serious side effects

of such policies. In most countries, however, other measures have been considered necessary to deal with special characteristics of agriculture of a long-term nature. It is difficult to generalize for a number of countries, but five of these characteristics are found in the agricultural sectors of most developed economies. The first is a low income elasticity of demand for agricultural products, i.e., increases in income lead to a much less than proportionate increase in the demand for farm products. The second is a rapid rate of technological change. This has been a characteristic of agriculture in many countries and has meant a rapid decline in the quantity of resources required to produce a given output. The third is a rapid rise in the quantity of capital employed in agriculture in recent years. This is partly a response to the opportunities presented by technological change, but is also a consequence of the rise in savings generated by the rapid growth in incomes in the post-war period. Farmers have been able to finance substantial additions to capital from their own resources and steps have been taken in many countries to give farmers readier access to the savings of others.

The logical consequence of these three characteristics is clear. If demand is not growing rapidly but output per man is increasing sharply, then it is evident that unless there is a rapid reduction in the number of people engaged in agriculture, a long-term income problem will exist. A fourth characteristic of agriculture stands in the way of an easy adjustment to this problem. There is often an understandable reluctance on the part of some people to move from one industrial plant to another, or from one occupation to another, even if this will lead to a rise in income. If, however, the change can be made without a significant break in the pattern of life, no serious problem arises and the move takes place. If, on the other hand, as is frequently the case with a shift from agriculture to an urban occupation



what is required is a change in the type of work, extent of supervision, regularity of hours, place of residence, etc., the change is much more difficult to make. It should come as no surprise, therefore, that in spite of the fact that there have been significant absolute declines in the agricultural labour forces of all developed countries, in many the adjustment has not gone far enough to equalize net advantages in agriculture and other industries.

It should be added that while the shift of labour out of agriculture has been inadequate in most countries the movement has been surprisingly large in recent years. For example, in Canada the Labour Force Survey showed 1,186,000 people employed in agriculture in 1946. By 1964 this number had declined to 630,000. Ten years ago when future changes in the labour force were being considered by the Royal Commission on Canada's Economic Prospects it was expected that a decline would occur from 1955 to 1980, leading at the latter date to a total of 735,000. This number was reached by 1958 and one study carried out for the Economic Council of Canada has estimated potential employment in Canadian agriculture by 1970 will be 543,000. In the United States, the Paley Commission writing in 1951 estimated that there would be a drop of at least 10% in the agricultural labour force of the United States in the next twenty-five years. In fact, there was a decline of almost 25% in the next ten years and a further decline in the succeeding period.

A fifth characteristic of agriculture, and one which influences the way in which the industry performs over both the short and long run, is that agriculture, in the absence of special arrangements, is a close approximation to a purely competitive industry. The number of producers of any particular agricultural product is so large that unless they combine or through govern-

ment intervention are able to achieve similar effects, they are unable to exercise any significant influence over prices. It has frequently been suggested that this is in sharp contrast to the industrial structure encountered elsewhere in the economy, and further suggested that measures which introduce monopoly elements into the production and marketing of agricultural products are desirable as a method of offsetting this imbalance. This will be discussed in other papers, but a definitive position on this issue is greatly complicated by the fact that economists have not succeeded in reaching even very broad agreement on the extent to which monopolistic elements affect the allocation of resources in the economy as a whole.

#### IV - COMMERCIAL POLICY AND THE REALITIES OF INTERNATIONAL TRADE

There is no need to describe to this audience the realities of international trade in agricultural products, but it may be useful to draw together a few broad generalizations which will help to isolate any discrepancy between the various sets of principles we can adopt and the realities as they presently exist.

It may be useful to begin by outlining the broad general shifts in the commercial policies of the major trading nations of the world which have occurred in the last century. It is not easy to make changes which run against the general trend and the broad drift of commercial policy only changes direction on rare occasions. In the middle of the nineteenth century there was a major movement led by the United Kingdom in the direction of the freeing of trade. The United Kingdom went the whole distance by removing all duties the primary purpose of which was protection for domestic output. Other major trading nations responded to this change and in the middle decades of the nineteenth century there was a considerable reduction in tariff barriers. This movement began to be reversed in the eighteen-seventies,



our National Policy Tariff being part of this movement. With the exception of the United Kingdom, which remained a free-trade country, tariff levels around the world increased significantly. This pattern persisted up to the First World War and beyond. In spite of considerable efforts to initiate changes, little was accomplished in the way of tariff reductions in the nineteen-twenties and in some important cases the direction was towards increases in barriers. The United Kingdom made the first steps away from free trade during this period and it is noteworthy that the main lines of the Smoot-Hawley tariff in the United States were settled during the late nineteen-twenties.

In the nineteen-thirties there was, of course, a very sharp rise in barriers to trade as countries attempted to increase their individual levels of domestic economic activity by restricting purchases from other nations. For a single country, this was an attractive possibility although purchased at a cost, but when the practice became general it was self-defeating and most countries were left with the cost of increased trade barriers with little or no net gain in economic activity.

It was the lessons of this period and the initiative shown by a group of men in the United States and elsewhere which led to the drive for a reduction of trade barriers and the establishment of a mutually agreed order which would inhibit disruptive changes in trade barriers. It would be wrong to exaggerate the gains achieved through the General Agreement on Tariffs and Trade but the movement has been in the right direction and the relative absence of disruptive changes in tariffs has helped to make possible large-scale increases in the international movement of goods.

Indeed, the very substantial increase in the level of international trade is one of the remarkable and surprising characteristics of the post-war

period. During the inter-war period and right through the early post-war years, it was widely believed that international trade would play a smaller role in the future than in the past. In some cases this was a prediction, in others it was a policy recommendation, and in still others a combination of the two. For example, in 1933 Keynes wrote an article on national self-sufficiency in which he urged that under the conditions of the time there was much to be said for a reduction in the international flow of goods and capital.

"Ideas, knowledge, science, hospitality, travel -- these are the things which should of their nature be international. But let goods be homespun whenever it is reasonably and conveniently possible, and, above all, let finance be primarily national."<sup>1/</sup>

At the same time, he suggested that basic economic changes were reducing the importance of international trade and making national self-sufficiency less costly.

"...over an increasingly wide range of industrial products, and perhaps of agricultural products also, I have become doubtful whether the economic loss of national self-sufficiency is great enough to outweigh the other advantages of gradually bringing the producer and the consumer within the orbit of the same national, economic and financial organization. Experience accumulates to prove that most modern processes of mass production can be performed in most countries and climates with equal efficiency. Moreover, with greater wealth, both primary and manufactured products play a smaller relative part in the national economy compared with houses, personal services, and local amenities, which are not equally available for international exchange; with the result that a moderate increase in the real cost of primary and manufactured products consequent on greater national self-sufficiency may cease to be of serious consequence when weighed in the balance against advantages of a different kind."<sup>2/</sup>

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<sup>1/</sup> J. M. Keynes, "National Self-Sufficiency", Yale Review, 1933, p. 758.

<sup>2/</sup> Ibid., p. 760.

As was often the case, Keynes was bolder and less orthodox than his contemporaries, but even those, such as Professor Robertson, who held no brief for national self-sufficiency, argued that international trade might well decline in importance. Robertson's reasoning was in some respects similar to that of Keynes, but also was in part based on the view held at the time that population would grow much more slowly in the future than in the past. This was expected to lead to a decline in world trade in food and a decline in the level of foreign investment required to provide the infrastructure for rapidly expanding overseas countries.

This view of the future of international trade persisted into the post-war period, and some of the long-term predictions on industrial structure turned out to be accurate. To take only the case of Canada, between 1926 and 1964 the relative contribution of agriculture to the gross domestic product fell from 18% to 5%; forestry, fishing and trapping declined from just over 2% to just over 1%. On the other hand, mining and oil wells rose from just over 3% to just over 4%, and manufacturing from just under 22% to over 26%. The net result of these changes was that the commodity producing sectors of the Canadian economy declined from around 45% of the economy in 1926 to about 37% in 1964. To the extent that commodity producing sectors have a higher share of international trade, shifts of this kind will reduce the relative importance of international transactions.

A pessimistic appraisal of the future of international trade was reinforced by many of the developments of the early post-war years. To those looking out upon the world in the late 1940's, it was very easy to believe that payments restrictions on trade and the inconvertibility of major currencies would become a permanent part of the landscape. This is not the way things turned out. While there have been many setbacks, and while there

are still no grounds for complacency today, it is nevertheless the case that the 1950's brought a trade and payments environment for the developed countries which has some claim to be regarded as normal. In this environment, international trade has flourished. The rate of growth during the last decade, as Haberler has pointed out, has exceeded that of total production for the first time in the last century. This in itself is not a matter of great significance but it does indicate that steps to increase the level of international trade in agricultural products would not need to be taken in the face of sharply contrasting trends in the level of trade in other commodities and services.

#### V - CONCLUSION

Some of the issues raised in this paper will be settled in the papers which are to follow it. Other issues will have to await a much fuller understanding than we presently have of the way in which economies work, while others involve considerations which lie beyond the bounds of economics. A few concluding remarks will, however, be offered on the extent to which familiar economic principles provide some guidelines for policy in the area of international trade in agricultural products.

As pointed out earlier, much recent discussion in the articles and books written by and for academic economists suggests that little, if anything, remains of the principles which were once thought to provide clear guidance for economic policy. This attack from within the citadel has been supported by an assault from Professor Galbraith dismissing some of the fundamental principles as pieces of "conventional wisdom". Thus we have had at one and the same time talk of the wreck of welfare economics while in other quarters competition has been dismissed as a hopeless alternative and "countervailing power" seen as the principal means by which economic groups

can offset the market power of other groups.

Both of these attacks have provided a useful stimulus to further analysis and new empirical work. But most economists, including those who have contributed to recent developments in welfare economics, do not regard the results of work in this area as impinging very seriously on broadly accepted principles. For example, Mr. I. M. D. Little, the author of A Critique of Welfare Economics, later wrote a book entitled The Price of Fuel. In the preface to the latter book he pointed out that he and other welfare theorists would be inclined to hedge many policy recommendations with warnings and exceptions. He went on to add:

"But this is very far from saying that I do not think that particular policies should be partly, and sometimes even wholly, based on economic principles. I think they should be. Indeed, one may well ask how such a problem as that of the best fuel policy could possibly be solved by anything other than the familiar economic principles; for they are the only principles which have been evolved for our guidance in how best to use scarce resources." 1/

If we can proceed to make a cautious use of familiar economic principles in spite of modern welfare economics, can we also continue to believe that competition, if supplemented by short term stabilization measures, still has a crucial part to play? It is worth noting that over the last decade or more Professor Galbraith, who is not only a shrewd observer but also a most persuasive advocate, has not succeeded in convincing many economists of the general validity of his position. It may be, therefore, that the traditional analysis still has much to contribute to the solution of agricultural problems.

It is also worth emphasizing that the solution of agricultural problems may have an importance which goes well beyond the share of production of this industry in various countries of the world. While the

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1/ I. M. D. Little, The Price of Fuel, 1953, p. xi.

growth of international trade in industrial products has been very rapid in the post-war period, there is good reason to suppose that it could have been even higher if there had been freer trade in agricultural products. It is the indirect effects of this kind which increase the importance of any steps taken to develop agricultural policies which deal with fundamental issues and which do not severely restrict the flow of international trade. If all countries could be convinced of the fact that agriculture was a special case which would not and should not be brought up when international economic arrangements are under discussion, the indirect effects would be minimal. Unfortunately, countries which expect to benefit from access to foreign markets for their agricultural exports are not prepared to leave agriculture to one side. As a result, controversies over the arrangements for agricultural products can poison the whole atmosphere of commercial policy discussions and prevent other steps being taken to free trade over a wide range of other goods and services.



## WORLD AGRICULTURAL PRODUCTION AND TRADE <sup>1/</sup>

by

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A postwar development is the division of the world into three broad economic groupings - developed,<sup>2/</sup> developing and centrally planned. Each group of countries can be categorized by its policies, its progress and its problems, but there is an interrelationship and interdependence between these economic groups. Agricultural production and trade in each is affected by different influences and policies, and has shown different rates of growth.

During the postwar period the agricultural sector in each of the developed countries, producing mainly temperate-zone agricultural products, has followed a similar pattern of development. There has been a relative decline in the importance of agriculture in the economy of these countries with investment in agriculture increasing and productivity making remarkable progress.

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<sup>1/</sup> The United Nations and its Regional Economic Commissions, the Food and Agriculture Organization (FAO), the Organization for Economic Co-operation and Development (OECD), the United States Department of Agriculture, the Commonwealth Economic Committee, and others have over the past 20 years published many volumes of statistical data on agricultural production and trade, and analyses and evaluations of trends and policies. These reports (see bibliography) are valuable and comprehensive contributions. The author of this paper has made free and full use of the information contained in these many volumes. The manner of use is his responsibility.

<sup>2/</sup> This group includes North America, Western Europe, Oceania and Japan.

The expansion of domestic agricultural production in developed countries resulting from rapid technological advances brought increases in yields and output in both exporting and importing countries. At the same time there was an intensification of price support and trade restriction policies in importing countries and price support measures in some of the exporting countries. These domestic and trade policies have not been in harmony and have had the combined effect of raising supplies of many temperate-zone products<sup>1/</sup> to levels in excess of absorptive capacities of these countries which are the traditional high-income markets. At the same time in almost all of the developed countries there have been declines in the per capita consumption of the traditional staple foods like cereals, potatoes, and other root crops. The steady rise in the population has alleviated some of the per capita decline. Most of the increase in food consumption in these countries has been in livestock products and fruit and vegetables.

Stocks are concentrated mainly in North America. In contrast to the 1930's, most of the stocks are now government held or financed. The surplus stocks initially consisted mainly of temperate-zone products especially grains, and North America in recent years held about 70 per cent of the world agricultural stocks. The first period of expansion in wheat stocks up to 1954 coincided with the period of recovery in the main importing areas and with a period of relatively slow growth in world trade. The small reduction in stocks to 1958-59 was largely due to the growth in United States P.L. 480 shipments. Subsequently, variation in production, continued P.L. 480 shipments and the entry of Mainland China and the USSR

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<sup>1/</sup> Temperate-zone products are wheat, coarse grains (including corn and sorghums), meats (including also poultry and eggs), and dairy products.

have prevented the accumulation of record stocks beyond the peak of 1961. Besides wheat, other grains also accumulated, but surplus wheat stocks are more burdensome than coarse grain stocks because the latter are less dependent on export markets.

The accumulation of dairy products has been small compared to grain stocks, but the availability of excess supplies of butter and cheese in both exporting and importing markets has had a disproportionate effect on international prices primarily because the United Kingdom is the only major open market for dairy products.

In contrast, the developing countries as a whole have shown no decline in the relative importance of their agricultural industry. The rate of agricultural expansion has failed to keep pace with population growth. Furthermore, the proportion of non-food agricultural production is somewhat higher in the developing countries than in the developed regions. Food supplies have been maintained by increased imports from developed countries and mainly on concessional terms. Some of the countries in this group shifted from net exporters in the prewar period to net importers.

During the same period the countries in the centrally planned grouping (Eastern Europe, the USSR and Mainland China) have shown a substantial but not consistent rate of gain in agricultural production. As a result of bad weather and inability to maintain this rate of expansion this group of countries became important buyers of wheat (and other grains) in the first half of the 1960's.

In global terms, over the past two decades there has been an expansion in output and trade of agricultural products. However, the gains have not been the same for all regions nor for all countries.

The purpose of this paper is to trace the pattern of change that has occurred, especially since the end of World War II, in agricultural production and trade and to indicate the current patterns and relationships. The main emphasis is on countries producing temperate-zone products. In addition, there are separate sections on the commodities of major interest to Canada, such as wheat and other grains, meats and dairy products, which in aggregate make up 85 per cent of Canada's agricultural income. These commodity sections outline the changes that have occurred and indicate current developments. The paper does not deal with policy factors although policies are referred to when essential. Other papers in this series are concerned with policy aspects.

## I. PRODUCTION

World agricultural production in the mid-sixties is about 70 per cent greater than prewar. Production per capita for the same period, however, showed a gain of only 10 per cent. Similar increases took place in total and per capita production of food. Although both developed and developing countries showed similar gains in total output, the developing regions fell behind in per capita production with no gain during the past decade.

For the world as a whole, crop and livestock production have expanded at almost the same rate, but there has been a more rapid gain in output of livestock and livestock products in the developed regions and in crops in the developing regions. Soybeans, barley, corn, meat and eggs showed a faster rate of gain than wheat.

### Regional Trends

Despite wartime setbacks recovery of the agricultural industry

in Western Europe (the OECD countries) <sup>1/</sup> was rapid, especially between 1947-48 and 1953-54. The rate of gain was modest during the balance of the 1950's but marked advances were made during the early 1960's. The total gain was nearly 50 per cent between prewar and the early 1960's. Grain production increased about 30 per cent since the mid-fifties - mainly due to higher yields <sup>2/</sup> but also some substitution of wheat, barley and corn for the lower yielding rye and oats and some increase in acreage. The gain in livestock production in this region has been even greater with dependence on imported grains for livestock feeding increasing further - rising from 19 per cent of the total grains fed in 1952-53 to about 25 per cent in the early years of the 1960's. The production of poultry meat is no longer a by-product of egg production, increasing about 140 per cent during the past 10-year period.

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<sup>1/</sup> The OECD European countries include: Austria, Belgium, Denmark, France, F.R. Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom. Within this broad grouping are members of the EEC and EFTA.

<sup>2/</sup> The developed countries in Western Europe and other regions have shown substantial gains in productivity during the period under review. New higher yielding varieties of wheat and barley are being introduced constantly.



In total it is estimated that by the early 1960's the degree of self-sufficiency in Western Europe had reached 78 per cent for crops and 85 per cent <sup>1/</sup> for livestock.

North America and Oceania showed somewhat greater rates of gain in output between prewar and the first half of the 1960's, around 62 per cent and 69 per cent respectively. In the United States, production expanded even faster since the mid-fifties than in the previous decade. While the crop area decreased, crop production per acre increased by 31 per cent from 1952-54 to 1962-64 and livestock production per unit by 28 per cent.

Canadian agricultural production in the five years 1960-64, has been 66 per cent greater in volume than the immediate prewar output. Compared with the early postwar period, total output is up by almost 40 per cent. The average rate of growth per year in net agricultural output since 1935 has been about one per cent and since 1946 it has been 1.5 per cent. Various factors have combined to increase farm output. Grain production is up by 83 per cent over prewar, the result of a larger acreage and higher yields. Output of dairy products has shown a general upward trend with the

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<sup>1/</sup> The FAO reports that in Western Europe the percentage of self-sufficiency for all major foodstuffs combined rose from 79 per cent in 1948-52 to 82 per cent in 1953-55 and remained at this level in 1959-61. In trade terms, however, this change was substantial, equal to about \$1,100 million worth of imports. Changes were larger in the case of some individual products, especially wheat and sugar, affecting the trade of particular exporting countries. West European self-sufficiency diminished only in coarse grains, oilseeds and vegetable fats and oils, and tobacco. In the early 1960's the EEC produced 86.0 per cent of its wheat requirements, 71 per cent of the feed grains, 96 per cent of the meat, 90 per cent of the eggs, 99 per cent of the cheese, 97 per cent of the butter, and 45 per cent of the fats and oils.



exception of the years 1945 to 1953. Average annual milk output per animal in the recent five-year period has been 53 per cent greater than prewar while numbers of milk cows are down by 22 per cent. Production of poultry meat in 1960-64 tripled over prewar and total egg output doubled with the average rate of egg lay increasing by 40 per cent. The trend of livestock production has been more cyclical but for 1960-64 it was 66 per cent greater than prewar. The volume of livestock for slaughter in 1964 was an all-time high; the previous high was in 1943.

In Australia there were substantial gains in sheep numbers and wheat output. In New Zealand the recent major increases in output have been in the sheep industry and beef production, although emphasis in the early 1950's was in dairying.

The developing countries, while making important contributions to world production, e.g., about 17 per cent of the grain other than rice individually showed varying rates of gain in production. However, most of the agricultural production came from subsistence farming, with little entering commercial channels. Furthermore, the yields per acre showed a lower rate of growth than in developed countries.<sup>1/</sup> There are large numbers of cattle in India, Africa and tropical Latin America, but yields of milk

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<sup>1/</sup> The 1965 CEC report on grains points out that the differences in yields achieved in the more and less developed countries have tended to become greater. The gap is particularly wide between average yields of wheat and barley in Western Europe and in Asian countries such as India and Pakistan and, in the case of rice between the yields obtained regularly in Italy, the United States and Japan on the one hand, and Indonesia, Thailand, India and Pakistan on the other.

and meat have remained low and most of the production is for family or local village consumption. There are, of course, exceptions among developing countries. Argentina is an important exporter of wheat and corn. Argentina and Uruguay are important suppliers of beef and veal in world markets, accounting in the early 1960's for about 35 per cent of world exports of this commodity. On the whole, however, agricultural food production while increasing at the same rate as in more developed countries, did not match the rate of growth of population in this group of countries.

In Eastern Europe and the USSR, production increased faster over the past decade especially in the late 1950's than in any other main region of the world. In general the region was self-sufficient, and the Soviet Union was a net exporter of grains. Even so, production in the region has generally fallen behind planned targets. In 1963 and 1965 production, especially in the USSR, dropped because of adverse weather.

## II. INTERNATIONAL TRADE

World agricultural exports<sup>1/</sup> in the mid-1960's were about 50 per cent above the prewar period, showing a lesser gain than that for output. The rate of gain in the postwar period is also less than in the prewar period of the 1920's and in the early 1900's. The food and feed component of total agricultural exports increased by 60 per cent, more than total agricultural exports. Most of this increase in exports occurred since the mid-1950's and mainly between developed countries, especially the intra-regional trade in Western Europe.

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<sup>1/</sup> Exports, unless indicated otherwise, include both commercial and concessional sales.

The expansion of international trade that occurred during the 1950's, especially in the latter half, was largely influenced by the massive movement of agricultural products on concessional terms, mainly through the United States P.L. 480 Program to developing countries.<sup>1/</sup> In the first half of the 1960's the levels of world agricultural exports and imports were maintained and raised by the large purchases of wheat by Mainland China and the USSR<sup>2/</sup> from Canada, Australia, France, Argentina and the United States.

International trade in agricultural products, especially during the past decade, has been characterized by an abundant supply of most commodities, but for many of them demand in major markets has continued to grow slowly. The rate of increase has also been slower than the growth of trade in manufactured goods.

The underlying reasons for this slower growth in total agricultural trade in comparison to the growth of world trade as a whole has been brought out in the various U.N. reports. Some of these reasons are:

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1/ An FAO estimate shows that if an approximate allowance is made for these special exports, the increase in the value of shipments during the 1948-52 to 1959-61 period from North America falls from 42 to 26 per cent, and the world average from 17.5 to 14.6 per cent.

2/ Imports of wheat and wheat flour by the USSR, Mainland China and Eastern Europe during the 1960-64 period equalled 22 per cent of world imports (the world total includes sales on special terms).

- a) the slow growth of demand for food at the higher income levels now reached in the main importing countries, especially in terms of quantity, leaving aside the added cost due to more elaborate processing and methods of distribution;
- b) the rather slow growth of population in Western Europe, the largest importing region;
- c) increased agricultural production in the developed countries (including the largest importing countries) as a result of improved methods in agriculture, generally encouraged further by price supports and subsidies paid mainly for social reasons;
- d) in the case of developing countries the competition of synthetic substitutes with many natural raw materials of agricultural origin which they produce, and more economical use of raw materials in general.

#### Regional Trade Patterns

During the period under review there have been shifts in the flow of trade. Since 1938, the developed countries have increased their share of total world trade from 67 to 72 per cent, but their share of world agricultural exports has declined from 59 per cent in 1938 to 52 per cent in 1959-61. In 1938, the developed countries accounted for 83 per cent of all agricultural imports; in 1959-61, they accounted for 71 per cent. These trends are in direct contrast to those for the developing countries which increased their share of both exports and imports of world agricultural trade.

On a regional basis Western Europe and Oceania doubled the volume of exports when compared with the prewar period. The largest expansion occurred in North America with 1964 exports being 150 per cent

above the prewar period, and food and feed items showing an even much greater gain.<sup>1/</sup> The Far East Region showed a decline in volume of agricultural exports between the prewar period and 1964, despite a recovery since 1957. Latin American exports showed fair gains in the 1960's after a lengthy period of little progress over the prewar period.

The trends for imports and exports varied between regions. The volume of agricultural imports into Western Europe and North America showed considerably lesser gains than that of exports during the postwar period and as compared to the prewar period - the percentage gains for both regions combined between the prewar period and the 1960-63 period being about 30 per cent for imports and 90 per cent for exports. In both regions, imports of beverages and tobacco showed greater gains than imports of food and feeds. On the other hand, the volume of imports into Latin America, the Far East and Africa increased during the period under review by about 150 per cent, 68 per cent and 260 per cent, respectively.

To sum up, North America and Western Europe increased agricultural exports faster than agricultural imports. In Latin America and North Africa, net exporting regions, the increase in exports did not keep pace with growth in imports. Asia and the Far East have shifted from a net exporter status to that of a net importer. Thus, while the developing countries have made some gains in agricultural exports and imports

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<sup>1/</sup> Canadian agricultural exports during the same period rose by about 110 per cent.



the gap between developed and developing countries is still great.<sup>1/</sup>

The countries making up the Soviet Bloc (the USSR and Eastern Europe) were the breadbasket of Europe before World War I with annual exports of grain averaging 16 million metric tons, more than half the net imports of Europe at that time. By the mid-thirties net exports of grain from the Soviet Bloc were less than one-third as large and by the 1960's this area had become a net importer of grain.

A statistical breakdown by regions shows that at the beginning of the 1960's North America's share of over-all world exports of agricultural products is 20 per cent; Western Europe 24 per cent; Oceania and South Africa 8 per cent. The centrally planned countries' share is 11 per cent.

#### Intra-regional Trade

A more detailed analysis shows that a considerable percentage of the increase in exports and imports of agricultural products has been intra-regional rather than interregional. Intra-regional trade accounts for nearly 70 per cent of the agricultural exports of Western Europe, and it was mainly this expansion that caused the rapid growth in the volume of this region's exports. This trend is of direct concern mainly to other

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<sup>1/</sup> A United States study estimates that in 1959-61 the value of agricultural exports was \$31.00 per capita, only 25 per cent of total exports for developed countries and \$11.00, or 55 per cent for developing countries. The developed countries imported about \$48.00 per capita of agricultural products. The developing countries averaged about \$5.00 of agricultural imports per capita. This relatively low level of agricultural imports per capita reflects the concentration on imports of capital goods for industrialization in developing countries.



temperate-zone producing countries in Western Europe who are not members of the two trading areas, and to North America and Oceania, since these regions supply 65-75 per cent of the combined EEC and EFTA net imports of temperate-zone farm products.

For North America most of the increase in trade was on account of United States shipments on concessional terms since 1954; commercial exports from the region increased by only five per cent between 1952-53 and 1959-61. Within the region there has also been an expansion of total agricultural trade between Canada and the United States. United States farm exports to Canada have doubled between 1950-54 and 1963.<sup>1/</sup> On the other hand, agricultural imports by the United States from Canada, after making gains in the early postwar years, have in recent years declined. However, the combined value of exports and imports moved within the North American region had risen about fivefold between prewar and 1963, although the increase since the 1950-54 period has been very small.

#### Concessional Sales

We had indicated earlier that the world level of exports of agricultural products was heavily influenced by the development of concessional sales and the recent expansion of communist country purchases of wheat. It is estimated that during the first half of the 1960's around 50 per cent of world trade in wheat moved under concessional sales or to communist countries.

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<sup>1/</sup> United States sources are inclined to use a lower figure claiming that current published data include intransit shipments of grain and soybeans to unknown destinations.

The technique of export sales of agricultural products under special or concessional terms is unique to the post World War II period. The conditions and purposes of this type of sale have varied over the past two decades, but the volume has remained substantial. The United States is the largest supplier of agricultural products under this procedure. Wheat and other grains have constituted the bulk of the shipments, with dairy products being the other major group. Exports on concessional terms have in recent years constituted about five per cent of global agricultural exports.

FAO estimates show that between 1956-57 and 1962-63 total concessional sales of wheat and wheat flour by all countries ranged between 27 and 37 per cent of world exports, and for coarse grains between 10 and 25 per cent. The United States is the main supplier of wheat under concessional terms.<sup>1/</sup> Thus the proportion of wheat imports obtained by the developing countries as a whole on concessional terms from the United States increased from 38 per cent of their total net imports in 1955-56 to 60 per cent in 1959-60 and 1960-61. During this period, the proportion of concessional imports to total net imports of wheat rose from 39 to 71

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<sup>1/</sup> During the period under review the United States special exports of wheat and wheat flour ranged around 30 per cent of world exports and for coarse grains between 19 and 11 per cent. Canada's export of wheat and wheat flour under special terms (including credit sales to China) climbed from 1.7 per cent of total world exports for the average period 1954-55 to 1959-60 to 6.3 per cent in 1961-62 and 5.5 per cent in 1962-63.

per cent in the Far East and to a lesser extent in Latin America. It fluctuated a good deal in Africa largely because of wide annual changes in grain imports into the United Arab Republic.

During the 1954-55 to 1959-60 period the United States exports of corn, barley, oats and soybeans under special programs amounted to 20 per cent, 12 per cent, 9 per cent, and 30 per cent, respectively, of total world exports. Unlike wheat, concessional exports of corn and soybeans dropped markedly during the early 1960's. During the 1962-64 period, United States concessional sales as a per cent of total world exports dropped to 7 per cent for corn, and 20 per cent for soybeans. Dairy products were also moved but in considerably smaller volume, e.g. dried milk concessional sales equalled 7 per cent of world trade in the 1962-64 period.

The use of concessional sales or sales on special terms has had a twofold effect. On the one hand it has often resulted in markets of commercial exporters such as Canada being undercut or lost by these special sales. On the other hand these special sales have at times provided an "umbrella" over commercial markets.

#### East-West Trade

Agricultural exports from developed countries to centrally planned countries during the 1955-62 period averaged \$1.5 billion per year, or 40 per cent of the non-communist countries' total exports to the communist countries (except Cuba and Yugoslavia). Agricultural imports from the communist countries averaged one billion dollars annually or about 28 per cent of total exports from this group of countries. The most rapid period of expansion was in the latter half of the 1950's.

Over half of the agricultural exports to the communist countries were cotton, rubber, grains and wool. Exports of grain to the Soviet Union have fluctuated with the size of the Soviet crop, but until 1963 they were small. Purchases of wheat and wheat flour in 1956 by the Soviet Union amounted to only 16 million bushels. In 1963 and 1965, the Soviet Union purchases of wheat from Canada alone totaled 450 million bushels. Mainland China, the Soviet Union, and other communist countries imported in 1963-64 and 1964-65 around one billion bushels of wheat (including wheat flour equivalent). It should be noted that the East European countries as a group and Mainland China have been regular importers on an annual basis over the past five years.

The Soviet Bloc countries and Mainland China agricultural exports, which consist mainly of transactions within the group, during the period under review included livestock and livestock products, grain, fats, oils and oilseeds, fruit, vegetables and tobacco. The Soviet Union's main agricultural export to the West in the late 1950's was wheat when its total annual exports averaged 150 million bushels. The East European countries' agricultural exports were more diversified with the emphasis on livestock and livestock products; the region's annual exports of livestock products during the period (1955-62) varied as follows: meat, from 190,000 to 200,000 tons; butter, from 32,000 to 39,000 tons; cheese, from 8,000 to 23,000 tons; and eggs, from 60,000 to 98,000 tons. The main importing region outside the Soviet Bloc was Western Europe, and the main country, Britain. The region supplied about 15 per cent (50,000 tons) of Britain's total bacon and canned meat imports in the late 1950's, and there has been little change since. The East-West

trade in butter has been more limited, e.g., Eastern European countries during the same period exported annually about 19,000 tons of butter to Britain accounting for about five per cent of Britain's total butter imports. The main supplier of bacon and butter from the region to Britain is Poland. United States agricultural trade with the communist countries has been mainly with Poland, and nearly all the grain shipped to Poland has been under P.L. 480. The major United States import has been canned meat, nearly all from Poland, which during the 1955-62 period averaged about 30 million pounds.

Mainland China has been a rice and soybean exporter in general, and in the late 1950's its annual exports averaged 1.5 million tons of rice and one million tons of soybeans. These have declined substantially in the 1960's. In addition to rice and soybeans, Mainland China exported other farm products including livestock and livestock products, fruit, poultry and eggs, tobacco, etc. Markets for Chinese agricultural products were located primarily in the Communist Bloc and other Asian countries. In the first half of the 1960's there has been a sharp decline in trade between China and the USSR and other Eastern European countries.

#### Summary

To sum up, Canada's current commercial markets are Western Europe, the United States and Japan. Canada's main competitors are the industrialized countries of Western Europe and the United States to whom she sells temperate-zone farm products. The entry of Mainland China and the USSR as major wheat importers has broadened the commercial market for wheat. To date the centrally planned economies have not provided any substantial outlets for livestock products. The developing countries continue to be minor commercial outlets for the agricultural exporting countries.



Commodity-wise, while wheat continues to be the big item in trade, coarse grain and meat exports have also shown substantial increases in trade, but the commercial export movement of dairy products in total has shown lesser gains. These changes in the pattern of commodity trade reflect the rise in the level of income in developed countries. The market for grains and high protein feeds expanded in line with the increasing numbers of livestock being fed and the substitution of wheat for other foods, for example, in Japan and Italy. Compared with prewar, world trade in wheat has nearly trebled by 1960-63. Exports of other grains have doubled. Meat exports have risen by 90 per cent and cattle exports by nearly 75 per cent; exports of such dairy products as powdered milk and canned milk have quadrupled; and cheese has doubled.

### III. GRAINS

#### All Grains

A combination of increased acreage and higher yield has resulted in world output increasing substantially from about 650 million tons in 1949-53 to more than 900 million tons in recent years, an average of three per cent per year. World exports have moved at a faster rate than production and the two main features of the postwar world grain markets are: (1) the sharp rise in the volume of trade,<sup>1/</sup> and (2) the

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<sup>1/</sup> The volume of world shipments of grains has more than doubled since before the war. World exports of wheat in 1964, including flour in wheat equivalent, amounted to some 55 million tons, representing nearly a fifth of the total wheat production (apart from that of China). This proportion was appreciably higher than prewar, when about an eighth of the wheat output entered international trade, and also higher than in the earlier postwar years, when the ratio was generally around a sixth.



existence of larger surpluses of grains, especially wheat, since the early 1950's, owing to technological progress, price and income support policies, and the slowly rising and even "stagnant" level of consumption in many exporting and importing countries.

The principal partners in world grain trade during the 1950's and 1960's are the developed countries of the temperate zones, whose share of world grain exports rose from 68 per cent in 1953-55 to 76 per cent in 1959-61, and to 87 per cent in 1963, while their share of grain imports ranged around 65 per cent. Western Europe continues to be an important although declining market for wheat exports from outside the region.

Japan, who prewar imported very little wheat, became an important market in the postwar period, importing seven per cent of world imports, mainly from the United States and Canada.

World grain trade has also been stimulated by the growth of both exports and imports of centrally planned economies. In recent years, these countries have turned from net exporters into net importers of wheat and of grains as a whole. The share of world grain exports by these countries had changed little in the 1950's but their imports had trebled during the fifties, rising from 10 per cent of the world total in 1953-55 to 14 per cent in 1959-61, largely as a result of the purchases by Mainland China. However, in the sixties imports by the USSR, Mainland China and other communist countries raised the percentage to 25 by 1963-64.

In the postwar years the international trade in wheat has become relatively more important for the grain economies of a few exporting countries with highly developed agriculture and there has been a concentration within the trade. The bulk of the world's wheat trade is shared

between the United States (40 per cent), Canada (20 per cent), Australia, Argentina and France. For corn, the United States exports 50 per cent followed by Argentina, France, Mexico, South Africa, Rumania, Thailand and Yugoslavia. The major barley exporters are the United States and France, followed by Canada, Australia, F.R. Germany, the United Kingdom, and Syria. The United States is also the leading exporter of grain sorghum which has become an important feed grain.

The main commercial markets are also concentrated with Western Europe, including the United Kingdom and the EEC, Japan, USSR and Mainland China, important for wheat and to some extent coarse grains. Eastern Europe has been a growing importer for both USSR and recently other exporters of wheat. The main P.L. 480 wheat markets are India, Pakistan, Brazil and the United Arab Republic.

#### Wheat

World production of wheat <sup>1/</sup> averaged 18 per cent higher in 1960-63 than in 1950-54 and 52 per cent above the prewar total. All regions, especially the Soviet Union, contributed to the increase. The coincidence of large USSR, Canadian and West European harvests in 1962-63 took production to a new record of 236 million tons, which represented a 63 per cent increase over the prewar average, as compared with the 22 per cent expansion in wheat area. It also represents a considerably faster rate of growth than that of world population, which (excluding China) rose by 35 per cent.

In Canada, acreage under wheat had exceeded 25 million acres before the second world war and had expanded to 27 million acres by 1953.

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<sup>1/</sup> Excluding Mainland China.

Then it fell to 21 million acres by 1957 and 1958, but with improved prospects for exports expanded in the first half of the 1960's beyond prewar levels. Total production of wheat has nearly doubled since prewar, rising from an average 263 million bushels to 526 million bushels in 1960-63.

United States wheat acreage was reduced by 41 per cent between 1949 and 1954 and has remained at about the 1954 level, but output in 1964 was slightly higher than in 1949 reflecting general agricultural progress particularly in fertilizer use and mechanization. The reduction in area was achieved through the fixing of an acreage allotment of 55 million acres every year since 1954-55 (except for 1962-63 when it was cut to 50 million).

Acreage and production in Australia declined in the 1950's by 23 per cent but production was about seven per cent higher than the prewar period. However, since the low point of 1956-57 following the shift in the relative profitability of wheat growing and sheep raising, there has been a remarkable recovery to a total of 15.3 million acres for 1960-63, a gain of 94 per cent over 1956-57 and production increasing for the same period by 116 per cent.

In Western Europe gains in acreage and production over the prewar period occurred during the 1950's. Although boundary changes after the Second World War transferred acreage producing 15 million tons of wheat from Western Europe into Eastern Europe, crops expanded during the fifties by 10 million tons in Western Europe or one-fifth over the prewar level, and net imports were barely maintained. The level of self-sufficiency in wheat production in the United Kingdom rose from 23 per cent in the prewar period to 41 per cent by 1963. France, the fifth largest wheat grower

in the world, has increased output by 28 per cent in the same period without any increase in acreage.

Acreages in the developing countries have also shown substantial gains. However, acreage in Argentina has been consistently below the prewar average, reflecting the impact of government economic policies.

The trend in wheat exports (including the wheat equivalent of flour) shows that by 1963 and 1964 North America had the largest gain in volume - nearly six-fold more than prewar. It should be noted that while Canada's volume of exports increased markedly, its share of world wheat trade dropped from 31 per cent in the prewar period to 23 per cent in 1963 and 28 per cent in 1964. During the same period United States exports showed a remarkable increase and its share of world trade in wheat climbed from eight per cent to nearly 40 per cent.<sup>1/</sup> Australian exports nearly doubled during this period; exports from Argentina showed a decline of nearly 50 per cent. Gross wheat exports by Western Europe rose nearly fourfold, but the region's share of world exports remained about the same in both periods - nine per cent. Up to 1963 exports of wheat by the Eastern European countries and the USSR expanded substantially - nearly threefold.

Wheat (and wheat flour equivalent) imports into the USSR, East Europe and Mainland China during the period 1960-61 to 1963-64 came mainly from Canada - 40 per cent - who was the most important supplier of

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<sup>1/</sup> There has, however, been a change in destination. In 1935-39 the developed countries accounted for 75 per cent of all United States wheat and rice exports which were quite small. By 1959-61 these countries accounted for only 33 per cent of these exports.

wheat to this group of countries. Australia was second, approaching the 30 per cent mark. The United States, France and Argentina were the other important suppliers. Argentina became an important supplier to Mainland China in 1963-64 but Australia and Canada remain the two important sources with France also making regular shipments.

Exports on concessional terms have accounted for the considerable expansion in imports of wheat and wheat flour into developing countries. They increased from seven million tons in 1954-55 to over 16 million tons in 1961-62.

World trade in flour has expanded steadily in the past three decades increasing from an average of about three million tons in the 1930's to around 4.5 million tons in the early 1950's and to over six million tons in the 1960's. But the relative importance of flour in total wheat and flour trade has declined steadily since the early 1930's. This steady decline reflected two factors - firstly, the very substantial increase in imports of wheat grain by developing countries such as India, Mainland China, Brazil and Pakistan, and secondly, the change from flour to wheat imports in many developing tropical countries following the establishment of domestic milling industries. The latter development affected adversely Canada's flour exports.

The pattern of world trade in flour changed considerably during the 1950's when the leading exporting countries were the United States and Canada, closely followed by Australia. By the early 1960's, United States exports made up nearly one-half of the larger volume of world flour trade, but the bulk of trade was on special terms. Since the mid-1950's, shipments of flour under special programs, mainly from the United States,



increased rapidly and by 1962-63 constituted as much as 35 per cent of total world flour exports. The exports of Canada and Australia had declined substantially, but Germany, France and, in some years, Italy became major flour exporters, while many other countries have emerged as small or irregular exporters. The volume of trade on commercial terms, however, has shown little change during the last decade. The loss of commercial markets by Australia, Canada and the United States was offset by gains made by Germany, France and Italy.

Imports of Canadian flour by the United Kingdom and other West European countries have declined from 670,000 tons in the early 1950's to 360,000 tons during the early sixties, and exports have virtually ceased to Latin America and the Far East, due to construction and expansion of flour mills in those areas. There has been some gain in Canadian exports to some of the African countries, and to the USSR.

#### Coarse Grains

World production of all coarse grains increased by over 50 per cent over that of the period before the last war. However, the relative shares of coarse grains and wheat remain much the same, i.e., 69 and 31 per cent respectively. Within the coarse grain total, production of corn, barley and sorghum increased substantially in absolute terms and moderately in relation to all other grains. World production levels of oats and rye have remained more or less stationary, and the share of these two grains in the over-all grains total has accordingly declined. The United States produces half of the world output of corn which reached a record high in 1963. The United States also has the highest yield per acre for corn. The USSR and the United States are the major barley producers, the former



doubling its output during the 1950's. The United States is the largest producer of sorghums, having tripled its production since the beginning of the 1950's.

Barley production in Canada has been affected by the expansion of barley growing in Western Europe and reduced prospects for exports. Between 1948-52 and 1962-64 Canadian barley production dropped by 15 per cent. However, barley production has increased about 16 million tons in Western Europe, almost two-thirds of this increase occurring in the United Kingdom and France, with France emerging as a relatively larger exporter.

The principal features of world trade in coarse grains are: (a) the low proportion of world production entering international trade, especially as compared to wheat, reflecting the small volume of marketed supplies in most countries; (b) a high rate of growth of international trade in the last decade, following half a century of stagnation; and (c) a relatively constant share, in the long-run, of coarse grains as a group, in the total world grain trade.

About eight per cent of world output of coarse grains enters international markets, compared with 25 per cent for wheat. Among individual coarse grains, the tonnage of exports in relation to world production is highest for barley and lowest for oats. The volume of international trade in coarse grains has more than doubled in the course of the 1950's, reflecting on the import side the rapid growth of livestock production in the developed countries, especially in Western Europe and Japan. In recent years there has been a steady increase in the use of grains for feeding livestock, and by 1960-61 roughly half the

world consumption of grains (excluding rice) was accounted for in this way. Over the period 1955-56 to 1960-61, an additional 44 million tons of grains were used for feed, compared with an additional 17 million tons for food. Most of this increased consumption of feed grains has been associated with rising meat production. On the export side, the expansion of world trade in feed grains in recent years has been due mainly to the strong increase in net exports by the United States, from 3.3 million tons in 1951-52 to 15.5 in 1963-64, or from less than one-fourth to nearly one-half of world exports. During the same period, exports from Argentina rose from 1.2 to 3.8 million tons, from Australia from 0.6 to 0.7 millions, while France has turned from the position of net importer of some 1.0 million tons at the beginning of the fifties to that of net exporter of 1.5 million tons during the 1962-64 period. Canada's shipments during the 1951-52 to 1963-64 period showed a downward trend and currently is a small net exporter.

As in the case of wheat, the degree of concentration is much higher on the side of exports than imports, with the United States alone responsible for nearly one-half of world coarse grain exports during the period under review and, with an additional five countries, Argentina, Canada, France, South Africa and Australia (in order of average exports), accounting for another third of world exports. By contrast, the three leading importers - the United Kingdom, Germany and the Netherlands, took between them only 45 per cent of world imports and, as many as nine major importers were responsible for three-fourths of total imports.

#### IV. MEAT

##### Production

A significant development in meat production is its expansion in the main net importing regions, Western Europe<sup>1/</sup> and North America (especially the United States) accompanied by a rising demand and substantial increases in per capita consumption of meat. By the end of the 1950's both regions together produced about 10.4 million tons more meat than ten years before. This compares with an increase of about 10.7 million tons in consumption.

World meat production (excluding Mainland China) has shown a steady upward movement, a rise of 60 per cent by 1963 over 1948-52, and well over 80 per cent over the prewar average. The gains in meat output for the postwar period were beef and veal 53 per cent, pigmeat 82 per cent, mutton and lamb 44 per cent, and poultry meat nearly fourfold. Gains were high over the past decade. Production of meat by 1960-63 had doubled over the prewar level in the more important meat-producing areas in Western Europe, North America and the Soviet Union.

About half of the world's meat supply (beef, veal, pigmeat, mutton, lamb and poultry meat) in 1963 consisted of beef, another 41 per cent of pork. The United States and USSR account for 40 per cent of the world's meat production. The United States produced twice as much as the Soviet Union and accounted for more than one-fourth of the world's supply.

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<sup>1/</sup> A most significant development on the export side during the 1950's was the large increase in meat exports from countries of Western and Eastern Europe. By contrast, the growth was much slower in the large exporting countries of the Southern Hemisphere, reflecting a less satisfactory development of production than in Europe and a fast expansion of population.

A feature of the world's meat economy during the fifties was the rapid expansion in production of poultry meat, due mainly to the increasing adoption of large-scale methods in raising chickens (broilers), originally developed in the United States. In both Western Europe and North America, the production of poultry meat grew at much higher rates than that of other categories of meat.

In the EEC, the trend of production kept pace with consumption so that the degree of self-sufficiency over the decade ending with 1963 changed little. This expansion can be largely explained by three factors: (1) by the strong demand which generally provided ready markets at relatively favorable prices; (2) by the marked improvements in management and feeding practices; and (3) by the price and income support measures for livestock producers. Eastern Europe and the USSR showed substantial gains and are approximately self-sufficient in respect to meat supplies but at a relatively low level of per capita consumption.

In contrast to the marked increases in production in the two major importing regions, progress has been slow in Latin America, which before the war ranked first as a net exporter of meat. The percentage increases were the largest in pigmeat and poultry meat, but the share of these categories in the region's total meat production is small in comparison with beef, which has expanded at a lower rate than in any of the other regions.

Meat production in Australia and New Zealand in 1959-61 was 35 per cent larger than in 1948-52 and, by 1963, 56 per cent. In both countries considerable investments have been made to improve pastures, and to provide better transport facilities. This enabled Australia and

New Zealand to take full advantage of the opportunities offered by the United States market. Meat production rose during the 1950's at an average annual rate of three per cent. The increase was greatest in mutton and lamb, with a 40 per cent expansion in sheep numbers between 1948-52 and 1959-61.

### International Trade

World trade in meats represents about seven per cent of world production. Exports have expanded markedly during the past decade with the strong growth of demand in importing countries coinciding with an increase in production in most major exporting countries. Total exports during 1960-63 were about double that of the prewar period, and exports of live animals during the same period rose by nearly 80 per cent. The postwar period has witnessed a strong and expanding demand for meat, especially in Western and Eastern Europe, the USSR and North America. In the decade between 1950 and 1960, world consumption per capita (excluding Mainland China) rose by about 22 per cent. In the developed countries as a whole the increase amounted to nearly 35 per cent compared with about three per cent for the developing areas. The expansion affected most kinds of meat but was least marked in mutton and lamb. In many countries, it was the most spectacular for poultry for which declining production costs permitted low prices which in turn stimulated consumption. Lower costs also helped to increase pigmeat consumption in Western Europe; in North America, however, consumption declined slightly on a per capita basis, while remaining at a high level. In the case of beef, rising incomes and pronounced consumer preference strengthened demand sufficiently to increase consumption at higher relative prices in virtually all the advanced countries.



The main flow of meat trade among the developed countries consists of imports (i) into the United Kingdom from New Zealand, Argentina, Australia and Continental Europe, especially Denmark; (ii) into F.R. Germany and Italy from sources in Western Europe; (iii) into the United States from Canada, Australia and New Zealand; and (iv) into Japan, which has in recent years become a major importer from Australia, the United States and New Zealand. Canada, which had become an important supplier of bacon to the United Kingdom during the war years, has not shipped any since 1950.

New Zealand, Denmark, Argentina, and Australia accounted for about 60 per cent of the world's meat exports in 1963. The United States and the United Kingdom together imported three-quarters of the world meat shipment. The United Kingdom accounts for more than half of this total. The EEC is the third most important market.

An important development was the shift of North America from a small net exporter during 1948-52 to a significant net importer. This was largely because of greatly expanded imports of beef and cattle into the United States since 1958, and more recently the substantial increase in United States imports of mutton and lamb from Australia and New Zealand, particularly for processing and canning. However, even including net imports of cattle, North America's net import balance in 1959-61 was still



only one-fourth the figure for Western Europe (including United Kingdom). Before World War II Canada was a net exporter but since 1950 has on net terms been a small net exporter or net importer.

Western Europe also increased her gross imports.<sup>1/</sup> Trade among the European countries during the 1950's approximately trebled and nearly 40 per cent of the international meat trade takes place between countries of Western Europe where the largest exporters are Denmark, the Netherlands and Ireland, and their principal customers the United Kingdom, Germany and Italy. Unlike the latter two countries, the United Kingdom gets about half of its imports in value terms from sources in the Southern Hemisphere. It should be noted that although Western Europe is the largest net importer, due to increased production, it has shown little increase in net imports since the beginning of the 1950's.

Detailed analyses of Western Europe by countries show that the growth of imports into the United Kingdom during the fifties was relatively slow. In 1959-61, imports of all meats, including live animals in terms of carcass weight, were 28 per cent above 1948-52 while at the same time the volume of world meat trade increased by 88 per cent. The United

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<sup>1/</sup> Gross imports of meat by Western Europe and North America taken together rose sharply between 1948-52 and 1959-61, by almost 70 per cent in meat, 110 per cent in cattle, and more than 500 per cent for pigs. In 1959-61, the two regions accounted for about 80 per cent of world gross imports of meat. Their combined shares in world imports of cattle and of pigs were 70 and 45 per cent respectively. Total gross imports of Western Europe in 1959-61 were 2.54 million tons compared with 1.56 million tons in 1948-52.

Kingdom accounted for only 40 per cent of world imports at the end of the fifties, compared with nearly 60 per cent in 1948-52. Comparing United Kingdom imports in 1959-61 with prewar, imports of carcass beef declined by 40 per cent and pork by 70 per cent. By 1963, the United Kingdom produced nearly 70 per cent of its supplies of carcass meat and offal, compared with the prewar average of 51 per cent.

Although meat production made great progress in F.R. Germany and Italy, it was not enough to meet the rapidly growing demand, and imports into both countries at the end of the fifties were much larger than during 1948-52 and 1934-38. France in the postwar period moved from a net importer to a net exporter of beef and veal.

The principal exports from Eastern Europe, mainly Poland and Hungary, have been pigmeat (pork, bacon, canned pig products and live pigs) and poultry. Western markets, particularly the United Kingdom, F.R. Germany and Italy - and the United States provided the main outlets.

Exports from the most important surplus area - Australia and New Zealand - rose to 775,000 tons during the 1950's, i.e., by 30 per cent during the period under review and continued upward in the 1960's. In Latin America, the second largest net exporting region, there was an increase of 25 per cent in net exports, from 470,000 in 1948-52 to 585,000 tons in 1959-61.

Imports of developing countries expanded somewhat but still represented in the period 1959-61 only around 12 per cent of the estimated value of world imports of meat and live animals.

## V. DAIRY PRODUCTS

In most developed countries dairy price-support policies in conjunction with the technical advances in milk production have encouraged a rapid expansion of production. Even in countries where there had been a slight reduction in guaranteed prices (e.g., the Netherlands, the United Kingdom), production has continued to increase. Farmers have thus tended to continue in dairying rather than to embark on other enterprises.<sup>1/</sup>

### Production

World milk production rose from 255 million metric tons in the prewar period to 351 million tons in 1960-63. The estimate for 1964-65 is 355 million metric tons which is an increase of nearly 40 per cent over prewar. On a regional basis half of this increase occurred in North America and Western Europe.<sup>2/</sup> On a percentage basis both Canada and the United States showed a considerably smaller increase in milk output than the world total. At the same time the USSR had a substantial increase in milk output, raising its share of world production from 13 per cent to nearly 18 per cent in the period under review. Western Europe showed no change, at 30 per cent, but North America's share of world output declined from 21 per cent to 18 per cent. Canada's share showed a slight decline.

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<sup>1/</sup> The growth of milk production in the EEC countries between 1961 and 1963 was temporarily checked, as the rate of increase slowed down. In North America the trend in milk production has been the same as in Europe.

<sup>2/</sup> Milk production in Western Europe, North America and Oceania, with about 20 per cent of the world's population accounts for about 55 per cent of the total production.

The increase in production was largely due to higher output per cow. Average yields of milk per cow in Western Europe, North America and Australia are now considerably higher than in the immediate postwar period. In most recent years it appears that the average quantity of milk per cow has levelled off in a few countries with particularly high yields, notably the Netherlands and Denmark.

During the period under review, cheese production increased by about 70 per cent, butter by 53 per cent, and milk powders about eightfold.

### Trade

World trade in dairy products consists mainly of the movement of special manufactured items from a few leading suppliers to a limited number of markets. During the 1959-61 period, approximately six per cent of the world milk production crossed international borders in the form of cheese, butter and other manufactured products. Exports of dairy products from the EEC and North America (United States and Canada) averaged between three and four per cent of annual output whereas the New Zealand percentage was between 40 and 50 per cent.

Almost three-quarters of world butter exports are taken by the United Kingdom; the suppliers are New Zealand, Denmark, Australia and the Netherlands. A dominant feature of the trade in butter has been the recurrent market gluts. The current volume of trade has not changed significantly from the prewar level of exports. The relatively light world butter production in 1963 enabled Canada to move much of its butter stocks into Western Europe on special terms.

Trade in cheese in the postwar period has become almost entirely confined to shipments among a number of developed countries of Europe and the Commonwealth. The principal markets for cheese are the United Kingdom and West Germany and the principal exporters are New Zealand, Denmark, France, Switzerland and Italy. The United Kingdom produces presently about 44 per cent of its cheese requirements compared with 32 per cent prewar. Little change has occurred in the proportion of world cheese production which entered international trade. In prewar years, about 13 per cent of world cheese production was sold on export markets, compared with 15 per cent in 1964. World cheese production is currently about 70 per cent above the prewar level and exports have doubled. The main world trade is still in cheddar cheese, but cheese varieties other than cheddar account for an increasing share of the world trade in cheese. West European exports, mainly intra-regional, expanded about twofold and, except for shipments to Britain, most of this trade is in cheese other than cheddar. North American imports of cheese are principally a variety of specialty cheeses while cheddar imports are restricted to a nominal amount by import quotas.

Exports from North America, on the other hand, consist predominantly of cheddar cheese. Canadian cheese exports in recent years have moved at the 20-30 million pound level. United States cheese exports in the fifties were larger than the current level as a result of large exports under special terms such as P.L. 480.

World trade in such concentrated products as evaporated milk, condensed milk, dry whole milk powder and dry skim milk powder had risen more than four-and-one-half times by 1964 over the prewar period, and



accounts for 22 per cent of the value of the total international trade in dairy products. Trade in canned milk is between the Netherlands (two-thirds) and the Far East. Other sizeable exporters are the United States, the United Kingdom and France.

Trade in non-fat dry milk has increased substantially and is mainly exported by the United States, New Zealand and Australia to the United Kingdom, Mexico, Philippines, West European countries, Japan and India. The substantial increase in exports by the United States has been due to concessional sales, e.g., during the 1959-61 period, 91 per cent of total United States exports were under special terms. Canadian donations and special sales of dry skim milk during the period 1957-61 amounted to 59 per cent of Canadian exports. However, beginning in 1962, commercial exports from both the United States and Canada have shown a substantial expansion, mainly to Western Europe where this product is used in milk replacer feeds. In the case of Canada, concessional sales of the non-fat milk powder have, between 1961 and 1964, declined to eight per cent of total Canadian exports.

On the whole, the pattern of world trade in dairy products during the postwar period under review changed considerably. Most of the West European dairy trade is between its own countries. The EEC is self-sufficient. Commercial and concessional exports of dairy products, other than skim milk powder from North America, which used to be the third largest supplier, declined substantially. However, commercial exports of skim milk powder from North America increased in volume as well as in the share of total trade, thus strengthening the position of the United States as the main supplier of this product. Exports from centrally planned



economies increased nearly tenfold to about 12 per cent of world total (in terms of milk equivalent) but most of this trade, mainly butter, was within this group of countries.

## VI. RÉSUMÉ

Per capita production of farm products showed the most rapid gains in the developed countries. Trends in food production and trade show that the less-developed countries are steadily losing their capacity to feed themselves.

The developed countries have become more dependent upon each other for market outlets for their temperate-zone farm products. However, it is in these countries that production of many similar commodities has risen beyond the amounts which, in the absence of government intervention, the market could absorb at remunerative prices. Trends in output have been significantly influenced by national support policies which have given preference to domestic production. At the same time, demand for foods is rising considerably less than income per capita.

This production increase has resulted in Western Europe becoming more self-sufficient, so that net imports of temperate-zone agricultural products have become less important. Japan, however, has been an expanding market. The United States has become an important net importer of meats, but continues to be a large net exporter of the temperate-zone foods, still relying heavily on P.L. 480 shipments.

Much of the increase in world agricultural exports has been of an intra-regional nature. The West European group, the North American group and the centrally-planned economies have shown considerable gains in this

respect. Canada, however, has been obtaining a smaller share relatively of both the West European and North American markets.

For grains, the pattern of world trade has changed markedly. In the prewar period, nearly all regions were net exporters - today, there are only three, with North America dominating. Western Europe has been the large net importer; but now Asia and the Communist countries of Europe are beginning to rival Western Europe as the primary grain importers. Much of recent Asian imports have been made through the United States P.L. 480 Program. Much of the communist countries' imports have come from Canada and Australia.

The expansion of wheat production in the developed countries without a corresponding growth of wheat for human consumption has led to a surplus of supplies which must either be exported, fed to livestock or added to stocks. All three have occurred, but exports have been facilitated through large-scale sales on special concessional terms.

While wheat consumption declined, an outstanding feature for meats has been the rising demand which has continued over the postwar period and has shown no indication of levelling out. Thus, while the marketing of grains, especially wheat, has been difficult in recent years, the demand for beef in particular has been buoyant. However, even in the case of meat the world market is narrow with more than two-thirds of the total meat imports accounted for by four countries: the United Kingdom, Germany, Italy and the United States. New Zealand, Denmark, Argentina and Australia account for about 60 per cent of world meat exports.

Milk production has increased substantially in Western Europe. At the same time, it is the only international market of commercial significance but

most of the West European trade is among the countries of the region. North American exports have in part depended on United States P.L. 480 shipments and other sales on special terms.

Where does Canada fit into this picture? Canada is the world's fourth largest exporter of agricultural products. She ranks ninth as a world importer of agricultural commodities, of which a large proportion are of tropical origin. As a commercial producer and exporter, Canada ranks high in wheat, barley and flaxseed. Wheat alone constitutes more than half of the value of Canada's agricultural exports. Canada's share of world trade in feed grains has been declining although that of the United States has been rising. The importance of meat and dairy exports has declined in the postwar period. Flaxseed and rapeseed exports have increased considerably.

Historically, the best export markets for the many Canadian agricultural products have been the developed countries. During the early part of the postwar period, exports of Canadian farm products to Western Europe increased relatively rapidly and especially to the United Kingdom and the countries of the European Economic Community. Similarly, exports to the United States rose. However, agricultural exports to both regions during the past decade have declined to a lower level. Japan and especially the communist countries are showing increases in imports from Canada. In terms of value, agricultural sales to the communist countries during the past five years have exceeded agricultural sales to the United Kingdom. While Western Europe and the United States have imported a variety of farm products from Canada, the communist countries' purchases have been wheat.

To sum up, during the past five years, Canada's exports to developed countries consisting of a diversified package have been levelling off and her sales to communist countries, consisting almost entirely of wheat, have been increasing markedly.

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# THE RELATIVE POSITION OF CANADIAN AGRICULTURE IN WORLD TRADE

by

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## I. THE ANALYTICAL FRAMEWORK

The purpose of this paper is to assess Canada's position relative to other countries as an exporter of agricultural products and as an agricultural producer. This will provide a better understanding of Canada's role as a world supplier of agricultural products and the factors important to our participation in world agricultural trade. In addition, the attempt will be to determine the competitive position of agricultural commodities and the relative strength (or weakness) of Canada's major agricultural regions in facing the highly competitive position prevailing in import markets for farm products. Thus, the paper brings together important information dealing with Canada's agricultural trade along with an estimation of the competitive position of Canada's agriculture and some implications of these findings for trade policy.

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To proceed with this task, it is necessary first to develop a conceptual basis for trade in agricultural products; secondly to observe the agricultural trade pattern which reflects Canada's over-all trade advantage; next, to explain this general trade pattern and determine the competitive advantage of commodities important in Canadian agricultural trade. The paper then turns to consideration of agricultural production trends and productivity measures in Canada, the countries which represent Canada's major competitors, and in the important importing countries. While it is necessary to make reference to agricultural production and trade statistics, no detailed consideration is given to these matters since they are subject of another paper in this series. The agricultural trade patterns of the post-war period reveal in a most important way the maze of trade barriers which characterize this area. These are briefly summarized and their influence on trade assessed.

#### The Basis for Trade - Comparative Advantage

International trade carried on by free enterprise is basically caused by different commodity prices adjusted for transportation costs. Other things such as quality, credit terms, delivery time and product guarantees being equal, any economy-minded individual will buy from that source where goods can be obtained cheapest. In a world free of tariff and non-tariff barriers, subsidies and other forms of assistance, the quantity of goods traded and their prices will depend upon producers' supply and consumer-demand schedules for products. Trade taking place when relative prices differ between countries and continuing until these

relative differences adjusted for transportation and associated costs have been eliminated. Ultimately, product prices will depend on the relative efficiency in combining factors reflected in the comparative money costs of the factors of production. This generalization, referred to as the "principle of comparative advantage"<sup>1</sup> or comparative costs, provides the unshakeable basis for international trade, namely that whether or not a region is absolutely more efficient in the production of every good than is the other, trade will be mutually more profitable to all regions if each specializes in the products in which it has a comparative cost advantage or the greatest relative efficiency.<sup>2</sup> Since its development over 150 years ago by David Ricardo, this law has been continually criticized, modified and/or expanded upon. Although there presently exists general agreement among economists as to its being a valid conceptual basis for commodity trade among nations it has usually been discarded as inapplicable as a guide to decision-making or negotiating.<sup>3</sup> This same view has been shared by those connected with the

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<sup>1</sup> A precise definition of this law is given in C. P. Kindleberger International Economics, R. O. Irwin, Homewood, Illinois, 3rd Ed., 1963, pp. 87-105. The terms "comparative advantage", "competitive advantage", "cost advantage" and similar terms are frequently used interchangeably in the literature. This practice will be followed in this paper and the terms defined in a broad sense to describe the economic advantage one country has when compared to other countries in the production of a particular commodity.

<sup>2</sup> The only exception to this occurs when time is introduced, then economists generally agree there is a valid "infant industry" argument for protection. One other exception could involve strategy considerations in negotiating toward free trade.

<sup>3</sup> Although this has generally been the case, a number of studies have been made relating comparative costs and trade patterns. See, for example, R. M. Stern "British and American Productivity and Comparative Costs in International Trade", Oxford Economic Papers, Volume 14, Number 3, October 1957, pp. 278-288.

agricultural industry although a smaller group are heard to argue that agricultural conditions are especially favourable for the application of this principle.<sup>1</sup> Nevertheless, trade decisions have had to be made and negotiations undertaken from time to time with some selection criterion needed to choose from among alternative proposals. The most favourable, immediate and direct effects to the commodity group served has usually been the choice indicator. This means that each sector or group is treated as an independent unit, with jobs to maintain, ways of life to preserve and the interrelationships among commodities and resources so important to the comparative cost doctrine are completely ignored.<sup>2</sup>

The reason for the existence of these two extreme positions appears, in a large part, to be due to the lack of a simple way of measuring the comparative advantage of a commodity which reflects these interrelationships. Since this paper is partly concerned with determining the competitive advantage of agricultural commodities, it is important to develop an appropriate concept of comparative advantage which is also operational. The ultimate question is: Given our present and possibly our future costs of producing various agricultural products or a particular commodity, what does this suggest as an appropriate trade policy? An appropriate cost concept then must consider the effects of domestic farm policy, trade restraints, transport costs, opportunity costs as well as the more common components

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For an assessment of this view and arguments for comparative advantage principles to be given top priority in trade policy decision-making, see G. Haberler "An Assessment of the Current Relevance of the Theory of Comparative Advantage to Agricultural Production and Trade", International Journal of Agrarian Affairs, Volume IV, No. 3, May, 1964, p. 134.

<sup>2</sup> For example, if a tariff were imposed on feed grain imports to give higher prices to domestic producers and free trade was able to be maintained in feeder cattle, then such fortuitous circumstances would be the source of rejoicing by the trade negotiator who would pride himself with getting the best of two worlds. This would last only until he meets the wrath of the feeder cattle or grain-feeder cattle farmers who now lose money on their cattle.

of production costs in both a static and dynamic context.

### Toward a Workable Concept

Although agricultural trade takes place as a result of differences in commodity prices, trading is hampered, possibly more than any other industry, by such things as production subsidies and export assistance programmes, tariff and non-tariff barriers.

These devices not only alter commodity trade among countries but have direct effects on production costs and the competitive position of products in world markets.<sup>1</sup>

In the case of a high domestic support price established for a commodity above world levels, this increase in price obviously will bring forth more production unless output controls are imposed. At the same time though, while giving the impression of improving the position of farming, the benefits derived from such a programme are almost immediately reflected in the producers' cost structure. This means that if correct accounting is followed the comparative production costs have increased for that commodity and its competitive position has deteriorated relative to the rest of the world. It is usually forgotten that price is a major determinant of costs as well as vice-versa and if landholders' incomes are increased as a result of higher prices then this is capitalized into the factor with the more inelastic supply, usually land. The same effect on cost takes place from subsidized credit, price stabilization schemes, tax rebates and the many other forms of agricul-

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<sup>1</sup> The extent of such interference in the agriculture of advanced countries has led to the assertion that trade in agricultural products is primarily determined by the varying degrees to which governments subsidize their producers and the method chosen to get rid of surpluses. For a discussion of these views see T. K. Warley "Organizing World Trade in Temperate Agricultural Products" Farm Management Notes, University of Nottingham, No. 33, Spring 1965, p. 34.



tural production assistance which become capitalized and alter the cost structure. Hence, domestic agricultural policy has direct effects on the comparative advantage of home commodities and has an important relationship to trade policy. Price and income policies resulting in subsidized production frequently end up requiring export assistance in order to be traded in world markets. Export subsidy is quite common in agriculture of advanced economies and to do this includes such things as export certificates, direct subsidy, special transportation rates, storage cost reduction, tax relief of various kinds, as well as provision of marketing assistance such as trade fairs, missions and selling organizations. In addition to these devices, a number of others are used with the primary aim of increasing farm exports or improving the agricultural trade balance and at the same time alter the competitive position of agricultural products. These include such things as exchange depreciation, reduction in wages or other factor prices, restrictions on imports by means of tariffs, quotas and non-tariff barriers.

When exchange depreciation occurs, prices of agricultural export commodities are immediately reduced relative to world and import prices leading to export trade expansion and rising domestic prices.<sup>1</sup> Various measures are open on a narrower front to governments for promoting activities whose output would replace agricultural imports or augment exports. The most widely employed have been tariffs. Quantitative and qualitative import

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<sup>1</sup> The actual effects and their magnitude depends on the supply and demand elasticities for the export and import industries. Suffice it to say that all effects are not favourable, price increases will occur and may possibly have an unfavourable effect on the terms of trade. This use of exchange depreciation, especially in times of general unemployment is referred to as the policy of beggar-my-neighbour where each nation endeavours to throw a larger burden upon the others by using this device.

restrictions of various kinds such as quotas, licensing and "invisible tariffs" supplement tariff barriers to a great extent in world agricultural trade.<sup>1</sup> In addition to conventional fixed levies<sup>2</sup> imposed by all countries on some commodities, additional levies on agricultural imports have been introduced taking the form of variable levies, as in the EEC, or anti-dumping duties. As the gap between internal and world price widens and becomes less stable due mainly to the imposition of these restraints, the less satisfactory are conventional tariffs as a regulating device and countries resort to variable tariffs and quantitative controls.

In all cases the effect of the tariff is to reduce agricultural imports while protecting the home industry or providing a source of funds. Price levels are raised and relative prices altered with resources shifting to the protected industry. As a consequence, production costs are increased in the protected industry by the amount of the tariff. The number of devices available to countries and alternatives open in applying them to affect their trade balance has usually assured severe leakages of positive effects. For example, it is not uncommon to find countries imposing a tariff on an important input used to produce a final product which in turn is given production assistance and tariff protection while finally being exported under an export subsidy. However, any policy designed to increase exports or reduce imports of agricultural commodities has the effect of turning the terms of trade

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<sup>1</sup> Invisible tariffs might include special labelling requirements, customs and administrative procedures, arbitrary valuation procedure, etc., which constitute costs to the exporter.

<sup>2</sup> Most primary commodity tariffs are denominated on an "ad valorem" basis generally as a per cent of c.i.f. value, but in Canada and the United States on f.o.b. value. There are many "specific duties" particularly on commodities entering the U.S. denominated countries in units of the importing country's currency per physical unit of the commodity as well as combinations of the two types where a floor level is set in specific terms.

between agriculture and industry inside the home country in favour of agriculture and so of improving the income position of landowners at the expense of a competitive agriculture in world markets. Trade policy then has important implications to domestic policy, particularly from an income distribution standpoint.

The reason for the high level of protection and the existing array of tariffs and tariff-like charges applied to agricultural commodities is not easily obtained. A large number of influences in each country appear to operate in determining the tariff structure, notably the cost structure of domestic production of each commodity, official income policy, and carryover from the past.<sup>1</sup> Unique characteristics of modern agriculture have no doubt helped foster this protectionist attitude. The variability of crops from season to season, the relatively inelastic nature of demand, the increased speed of technical change in agriculture and inadequate adjustment methods have certainly been important in giving rise to increased implementation of these devices and to more non-price competition in world agricultural trade reducing the advantages of international specialization. Generally, tariff rates tend to be lower on agricultural commodities which do not compete with domestic production and the level increased according to the degree of processing the commodity has undergone, thus protecting domestic processing industries.

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<sup>1</sup> It is noteworthy that the most frequent criteria used in setting import tariff levels has been the cost difference between the exporters laid-down price and the least-favoured producer (highest cost) as opposed to considering the elasticity of demand and domestic supply in arriving at an optimum tariff. Very little attention is also given to the differential impact of tariffs, quotas and subsidies. There would certainly appear to be strong arguments for use of a direct subsidy to producers of certain commodities over a tariff when it is desirable not to disrupt product price levels. For example, a tariff on feed grains would raise the price of these in the home country and reduce the profitability and production level of meat. Whereas, a direct subsidy to feed grain producers would give them the same protection as a tariff without the disrupting effects on prices.

## Fundamental Forces

The present pattern of agricultural trade appears to be greatly influenced by the nature of trade restraints and the power to alter this resting largely with governments as opposed to an automatic price mechanism. However, transport costs and basic comparative production costs operate at least as a trade-policy restraint in the short run and grow in importance as a trade determinant directly as the time horizon expands. Hence, an operational definition of comparative cost must give special attention to these fundamental costs.

Trade can be based primarily on transport costs especially where local trade takes place along a long international boundary as between Canada and the United States. One country's net comparative commodity advantage then can be based on gross comparative advantage and disadvantage which can exist simultaneously due to transfer costs.<sup>1</sup> Transportation rates are not regular but vary depending on the degree of competition and bargaining power of customers as well as a number of other factors, e.g., weight, bulk, value, perishability, method of transport, distance, size and regularity of shipment. Because of these rate characteristics and their relationship to processing activities, transport costs and likewise transportation policy can act to greatly alter trade advantage<sup>2</sup> as well as comparative production costs of agricultural commodities. Although an operational definition of

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<sup>1</sup> This can be due to a number of factors in addition to location of production and demand, e.g., back-haul rates being cheap, fixed routes, etc.

<sup>2</sup> Samples of this behaviour described in considerable detail in Shipping Conference Arrangements and Practices, a report by the Restrictive Trade Practices Commission, Department of Justice, Ottawa, 1965.

comparative costs to include transportation has certain advantages, there are many disadvantages. For example, transport cost can be very important in determining feed costs and the price of other inputs. Internal transport charges to deliver export products to ports or export points are quite variable over time and affect the competitive position of these products; however, there are a number of empirical problems presented. It is difficult to weight commodity transportation costs and these are unstable due to changing markets and quantities demanded at different times. For these reasons and since transportation in world trade is mainly controlled by international forces or groups the concept of comparative costs considers transport costs only as they affect producer costs.

Basic production costs and differences in comparative costs result from differences in factor endowments, technology levels and through specialization. Within agriculture there are a number of farm enterprise opportunities affecting labour, land and capital costs in producing one particular product. Non-farm opportunities also exist which affect the level of input prices. Following from the above is the obvious but frequently forgotten fact that commodity production costs also vary depending upon the level of output or production.<sup>1</sup>

To explain part of existing trade, changes in trade pattern and comparative costs, some attention must also be given to dynamics.<sup>2</sup>

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<sup>1</sup> That is, although many factors determine the cost of production figure, this only corresponds to a point on the supply schedule.

<sup>2</sup> Changes and shifts in the supply schedule.



Changes in tastes, technology and factor endowments occurring at an increasing pace make the competitive position of commodities quickly changeable and difficult to discern. Tastes change with trade and result in changes in product demand, prices and in the quantities of goods purchased or traded.<sup>1</sup> Prevailing costs in farming also become obsolete quickly due to a more rapid rate of over-all economic activity in the non-farm sector than in the farm sector. Agriculture has not only become increasingly dependent on industrial production for its inputs but greater competition exists for resources with a direct impact on capital, labour and land prices. The degree of impact depends upon factor supply elasticities but the result inevitably is higher input prices. In the case of capital, this is reflected in short-term loan rates even though mortgage rates are partially insulated due to the special nature of farm credit institutions. The continued decline in the Canadian agricultural labour force since 1950, approximately 3.5 per cent per year, accompanying rapid industrial growth indicates a high farm-labour-supply elasticity to non-farm employment opportunities and wages. These effects have had a differential regional impact especially in the case of land prices. For example, both Quebec and Ontario experienced similar rates of increase in industrial employment between 1951-61 but farm land prices increased two per cent and eight per cent respectively. Such development effects are usually associated with increased substitution of variable capital inputs and greater product-supply elasticity accompanied by rapid rates of technological change in agriculture and supply shifts. The rapidity with which this adjustment takes place, relative to the rate of growth in the non-farm sector, determines in a large part the competitive position of farm products in world

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<sup>1</sup> Examples used to argue the "demonstration effect" include the Japanese experience in wheat and Coca-Cola, and European cars in America.



trade. The price of purchased inputs and their degree of quality improvement appears to play a vital role in this development since they make up a rapidly increasing share of agricultural inputs and an important source of technological progress. The rapid rate of technological change in western agriculture especially since World War II has and will continue to provide an important tool for altering comparative cost advantages. The adoption of a new technique appears first in a single country before the change spreads by imitation to others. When such changes do not spread evenly across all countries or commodities but are introduced at different times, have different rates of diffusion, and have area and commodity biases, their impact will be reflected in shifting production and trade patterns. In more recent years a growing volume of agricultural commodity trade appears to be based on a technological superiority rather than factor proportions or transport costs. This advantage can be destroyed and the direction of trade reversed, if technological change should halt and other areas allowed to catch up. In agriculture, technological progress appears to have been more important in reducing production costs than in introducing new products. As a result, it may act to expand or contract trade and worsen or improve the terms of trade, depending upon whether it is export or import biased.<sup>1</sup> Further, the form of technological change whether neutral or either labour, land, or capital saving can be important in affecting comparative costs and trade in areas with different factor endowments. For example, areas having an advantage in the production of grains due to the greater abundance of land may have this advantage altered

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<sup>1</sup> Export-biased innovations worsen the terms of trade even though improving the comparative cost advantage.

greatly by the adoption in land-scarce countries of specially designed land-saving fertilizer. Certainly the role of research and development in affecting competitive advantage in agriculture is a dynamic one. When the bulk of world research and development is concentrated in one country, the United States, this has important long-run implications for other major agricultural producers. With a high development potential for agricultural innovations the opportunity exists at all times for major changes in their competitive position since innovations generated would tend to be biased to their needs and conditions.

#### A Measurable Concept

The dimensions of comparative advantage then are both static and dynamic and involve many factors such as price and income policy, trade restraints, transport costs, demand shifts, factor endowments, technology, specialization and over-all economic growth. The influence of all these factors determines the cost of producing various products. As this influence changes over time per commodity, so does the corresponding comparative cost.

Comparative commodity costs can be measured by producers' prices for these products since price levels are capitalized into the cost structure. When these prices are compared to other world producers' prices, the absolute comparative advantage enjoyed by one country at specified output levels can be assessed. However, some agricultural products are characterized by much price instability and in such cases price reflects rather instantaneous comparative producer costs and competitive positions. For example, due to drought conditions the price of beef might fall sharply in both the United States and Canada. Although this might be accompanied by increased exports due to a competitive price advantage in world markets very little of this

price drop would get capitalized into the cost structure since beef producers' expectations would be for higher future prices. Where such price instability exists there may be some variation between "normal" comparative costs and producers' price. At the same time though, this variability of prices up or down may be the main source of a comparative advantage. To assess the "normal" cost advantage becomes more subjective and requires considering price levels over some normalized time span.

It is important to recognize that a measure of comparative advantage at a point of time does not indicate its stability over various price ranges and production levels. This question is important to analysis of investment alternatives, the impact of price reductions, tariff removal, and amounts to determining the relative supply functions of commodities. Although some attention is given to this later and in subsequent papers suffice it to say that, due to the changing agricultural input structure, supply elasticity appears to be generally increasing leading to less output stability under changing prices. It is also important to differentiate between level of competitive advantage and level of profitability. It is frequently argued that given a price increase and the appearance of profits to landowners, stability of output is also increased (a direct link between profit level and supply inelasticity) and likewise the competitive position enhanced. Such arguments have validity only under the most unrealistic conditions. Alternative production possibilities and resource substitution in agriculture are the rule, particularly at the margin, rather than the exception.

## II. CANADA'S AGRICULTURAL TRADE PATTERN

General changes in trade advantage are reflected in movements of agricultural commodities in world trade. Further, the evolving pattern can provide some explanation of the nature of change in the relative position of Canadian agriculture and factors responsible. Recent changes in commodity shipments can also alert us to areas requiring further analysis.

Canada's agricultural exports<sup>1</sup> have increased at the rate of approximately 13 per cent per year in current dollar volume over the past 35 years to a record high of slightly over \$1.7 billion in 1964. Although the largest part of this increase in farm exports occurred during World War II (300 per cent), a continued rise of four per cent per year has been experienced in both physical and dollar volume of farm exports since the early 1950's even though the pattern of increase is irregular (see Figure 1). This increase is quite remarkable in view of the slow rate of growth in Canadian farm output of only 1.5 per cent per year over the same period, or on a per capita basis actually declining from the early 1950's to the present at a rate greater than that experienced by most other nations including the underdeveloped countries.<sup>2</sup>

Farm imports also reached a record level of slightly over \$1 billion in 1964 and have shown a steady increase of five per cent per year since the

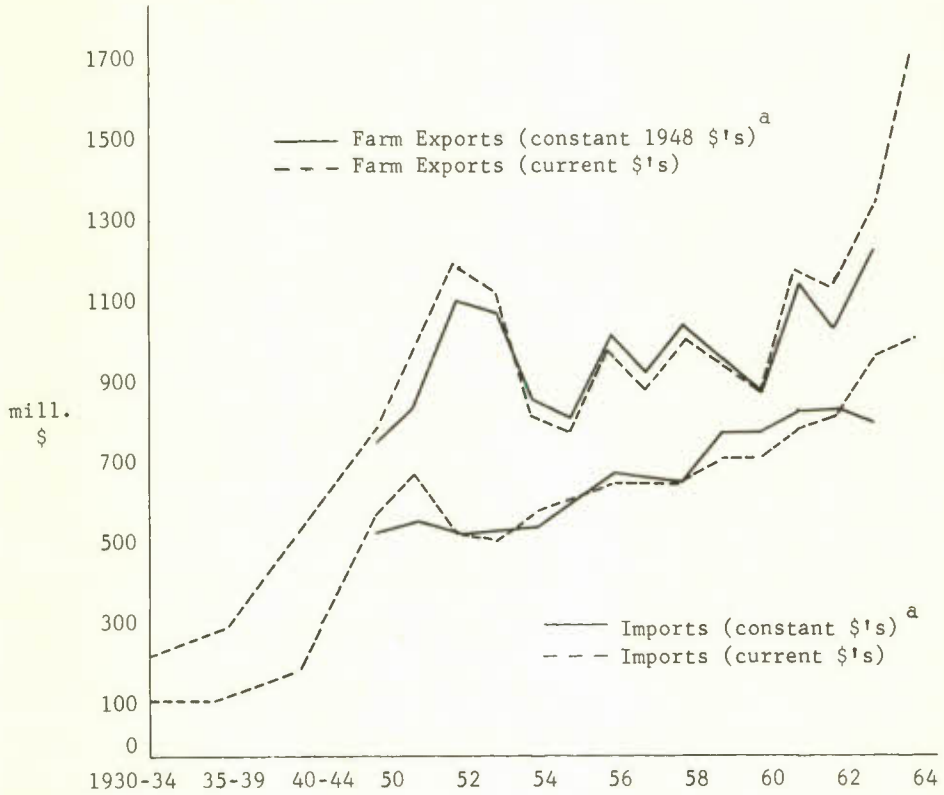
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<sup>1</sup> Agricultural exports and imports are measured similarly to methods used by the Economics Division of the Department of Agriculture and exclude such items as fish, leather and dressed furs. Canadian exports are valued f.o.b. port of shipment for export while imports are valued f.o.b. original point of shipment to Canada, thus having a downward bias.

<sup>2</sup> The rate of growth in total farm output for all North America over the period 1952-63 was lower than for all other regions. Canada's relative position both as a world producer and as a domestic supplier declined greatly over this period at a rate only experienced by a very few small countries, not including India. Total and per capita agricultural production figures are given in Production Yearbook 1963, Volume 17, pp. 27-32, published by F.A.O. annually.

Figure 1

Farm Exports and Imports, 1950-64



<sup>a</sup> Deflated by D.B.S. "Price Indexes" of exports of Canadian agricultural and animal products and the corresponding import price index.

early 1950's; however, during the past six years the average rate of increase has approached ten per cent per year. Despite increases in agricultural imports the tradition of a favourable Canadian balance of trade in agricultural products has been maintained.

These trends, coupled with Canada's farm exports advancing at approximately the same pace as that of total world exports of farm products, indicate that Canada continues to enjoy an ~~over-all~~ trade advantage in farm products with the rest of the world even though the magnitude of this advantage is being altered somewhat in recent years.

#### Destination Pattern for Canadian Commodities

Associated with the changing trade balance in agricultural products there have been important shifts in destination patterns. The degree of country concentration of our exports, although traditionally high, has been greatly reduced in recent years. During the 1950-51 period Britain absorbed 26 per cent and the United States 46 per cent of our farm exports, together accounting for 72 per cent (Table 1). By comparison in 1963-64 the five main importing countries of Canadian farm products accounted for only 63 per cent of the total.

The chief importer of Canadian agricultural exports during the period 1963-64 was Britain, taking 22 per cent of total shipments. The United States followed with 14 per cent during the same period, while the U.S.S.R. absorbed 12 per cent. All Communist countries and their satellites imported approximately 25 per cent of our farm exports during the two-year period 1963-64, while the figure for the E.E.C. was 12 per cent.

The United States has not only reduced its share but now imports from Canada one-half the dollar amount of agricultural products it did over a decade ago. Britain and other Commonwealth countries have not maintained



Table 1: Destination of Exports of Canadian Agricultural Commodities

Area	1950 - 51 average	1963 - 64 average	Excluding wheat and wheat flour 1963 - 64 average
( p e r c e n t )			
United Kingdom	26	22	28
Other Commonwealth	7	2	2
United States	46	14	38
E.E.C	11	12	12
Communist Countries	-	25	3
U.S.S.R.	-	(12)	
China	-	( 7 )	2
Poland	-	( 3 )	-
Other	-	( 3 )	-
Japan	3	8	7
Other	7	17	10

Source: D.B.S., Trade of Canada and statistics compiled by D.L. Bolton, Canada Trade in Agricultural Products with the United Kingdom, United States and all Countries 1963-64, Canada Department of Agriculture, Economics Branch, June, 1965.

their importance as import areas and our share of their markets declined despite the operation of the British Preferential Tariff. In contrast the E.E.C. countries continue to absorb a stable share of our farm exports, Japan has doubled its share, and the Communist world is now a major import area.

These changes indicate a considerable shift has taken place in both the countries importing our agricultural products and in the proportion of

our exports taken by these countries. The destination of Canadian farm exports has neither followed that pattern suggested by general demand increases nor the areas favoured from tariff position. Rather the shifts in destination pattern in part appear to relate to area changes in demand for Canadian wheat and wheat flour even though these are more distant markets and higher transportation costs are incurred. The role of wheat and wheat flour in explaining the expansion of trade is apparent when almost the entire trade with the Communist countries has been in wheat and part of the declining share of total farm exports to the United States and Britain is due to little or no expansion of wheat exports to them. The effects of wheat exports on altering export shares is shown in Table 1, Column 3 and although a large influence does not explain all the decline in the Commonwealth and American shares or all the expansion that took place, for example, in exports to Japan.

#### Origin of Canadian Farm Imports

Although imports of agricultural commodities have doubled between the two-year periods 1950-51 and 1963-64, the origin of these remained quite stable. In both periods the United States was by far the dominant source supplying 52 per cent of our import needs. Britain supplied around 5 per cent in both periods but the share of other Commonwealth countries fell from 30 per cent in the earlier period to slightly over 20 per cent at present. Of these Australia and New Zealand presently supply approximately 7 per cent of our imports. The E.E.C. countries contributed a stable 3 per cent over the period. The remaining imports are obtained from a great number of countries, the most important being in Central and South America, notably Brazil (3 per cent), Mexico (2 per cent) and Columbia.

Despite the fairly substantial tariff wall that still exists between Canada and the United States a high proportion of the total agricultural trade of the two countries takes place with each other. Excluding wheat, Canada now exports almost 40 per cent of its farm products south of the border, while the United States is the chief supplier of commodities both complementary and supplementary to our agricultural production. Over the past decade Canada has ranked either first, second or third every year as an outlet for American farm products and has become a greatly expanding market.

#### Composition of Farm Exports and Imports

Accompanying increases in farm exports and shifting destinations over the period 1950-64 have been important shifts in the commodity composition of farm exports (Table 2). A much greater proportion of our present agricultural exports is crops and a greater proportion of these crops is wheat. Of the more than \$1.5 billion farm exports during the two calendar years 1963-64, over 86 per cent were crops and the remaining 14 per cent livestock and livestock products. This compares with 76 and 24 per cent respectively during the earlier period. On the import side, the opposite shift occurred with livestock imports increasing slightly.

Agricultural imports into Canada have also become more supplementary to our production. Of the total imports of agricultural commodities in 1963-64, approximately 45 per cent were supplementary.<sup>1</sup> Almost all livestock and livestock product imports can be classed as supplementary commodities while about one third of the crop imports are now of this nature.

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<sup>1</sup> Supplementary imports refer to imported products of a kind produced commercially in Canada even though season or quality differences occur. Complementary imports are defined as those which are not produced commercially in Canada.

Table 2: Composition of Canada's Agricultural Exports and Imports, for Selected Periods

Commodities	1950-51				1963-64			
	Exports		Imports		Exports		Imports	
	mill \$	%	mill \$	%	mill \$	%	mill \$	%
	- Annual Averages -							
Grains	474.5	51.0	38.3	5.7	964.0	63.0	40.0	3.9
Grain pds. (food)	125.2	13.5	4.2	0.6	99.2	6.5	14.5	1.4
Other animal feeds	12.0	1.3	2.7	0.4	29.9	2.0	3.3	0.3
Oilseeds	13.3	1.4	17.1	2.5	66.0	4.3	52.3	5.1
Oilseed pds.	7.6	0.8	35.1	5.2	29.4	1.9	53.2	5.2
Fruit and nuts	14.4	1.5	115.0	17.1	22.5	1.5	207.7	20.3
Vegetables	7.0	0.8	25.3	3.8	17.3	1.1	69.6	6.8
Potatoes	7.6	0.9	2.2	0.3	10.9	0.7	6.6	0.7
Seeds for sowing	11.9	1.3	7.7	1.1	20.8	1.4	8.3	0.8
Maple products	3.7	0.4	-	-	5.5	0.4	-	-
Sugar	2.0	0.2	81.0	12.1	5.9	0.4	116.1	11.4
Tobacco (new)	13.6	1.5	2.5	0.4	33.5	2.2	4.7	0.5
Other vegetable pds <sup>a</sup>	15.0	1.6	236.5	35.3	24.1	1.4	270.6	26.5
Total crop	707.8	76.2	567.6	84.5	1329.0	86.8	846.9	82.9
Live animals	75.0	8.1	1.5	0.2	35.7	2.3	8.8	0.9
Meats	75.7	8.2	15.6	2.3	47.8	3.1	51.2	5.0
Other animal pds.	40.7	4.4	75.3	11.2	69.7	4.6	93.8	9.2
Dairy products	24.5	2.6	8.8	1.3	44.5	2.9	9.4	0.9
Poultry and eggs	5.1	0.5	3.1	0.5	2.7	0.2	11.3	1.1
Honey	-	-	-	-	1.1	0.1	0.6	-
Total livestock and livestock pds.	221.0	23.8	104.3	15.5	201.5	13.2	175.1	17.1
Total	928.8	100.0	671.9	100.0	1530.5	100.0	1022.0	100.0

<sup>a</sup> Includes plantation crops, vegetable fibres and other vegetable products. The 1950-51 figures for this group may not be comparable to 1963-64 data due to source and definition differences.

Source: D.B.S. Trade of Canada and statistics compiled by D.L. Bolton, op. cit.

### Crops and Related Products

Export gains appear to be quite widely distributed among crop commodities. All commodity groups increased their export share between 1950-51 and 1963-64 with the exception of grain products, potatoes, and the other vegetable products category. Grains being the dominant commodity group in Canadian agricultural exports also accounted for much of the change in export composition as their share of total farm exports increased from 51 to 70 per cent. This increase was entirely accounted for by wheat exports which increased from an average 200 million bushels to over 400 million bushels by 1963-64. As a share of grains and grain products, wheat and wheat flour exports now make up approximately 95 per cent of the exports of this commodity group compared to 80 per cent in 1950-51. Absolute declines were experienced in wheat flour, oats, barley and rye exports. The most marked reduction was in oats dropping from 38 to 19 million bushels over the period. The decline in exports of feed grains and grain products has been accompanied by a considerable increase in imports of U.S. corn, corn products, biscuit and baking products. However, seed exports of mainly wheat, oat and clover seed have increased significantly over the period.

Exports of animal feeds, although relatively small, have shown a substantial increase due to increased shipments of hay, grain byproducts, complete feeds and concentrates. A rapid export increase has occurred in oilseeds and oilseed products, mainly from flaxseed which provides about 70 per cent of these items and from advances in rapeseed shipments. Soybeans also contributed to this rise but it is difficult to determine how much of this is due to trans-shipments since imports are now quite large and have increased rapidly in recent years.

On balance Canada is increasing its imports of both fruit and

vegetables from the United States. Approximately 30 per cent of the fruit and nuts imported are supplementary to our production with the larger proportion not grown commercially in Canada. Most of the vegetable fibres, primarily raw cotton, plantation crops and other vegetable products imported cannot be grown commercially here due to climate. Apples have been traditionally the main export item but apple imports have increased greatly over this period. Potato exports have increased but imports of early potatoes from the United States have increased even faster. Unmanufactured tobacco exports have become an important export item.

#### Livestock and Livestock Products

Over-all exports of livestock and livestock products have declined considerably over the period. The associated rise in imports is further evidence of a declining trade advantage in these commodities. Export increases have occurred in such animal products as tallow, sausage casings and undressed furs. Dairy product shipments, mainly butter, milk powder and casein, were also expanded; however, cheese imports which make up most of the imports in this group have more than doubled. From a net exporter of poultry and eggs in the early 1950's, Canada has become a substantial importer. The most notable change has been in shell eggs, with some import increases in poultry meat and live poultry.

A great deal of fluctuation takes place with exports and imports of live animals and meats primarily because of the close market between Canada and the United States and the cyclical production swings occurring unevenly between the two. Although exports of live animals appeared to decline over the study period, Canada still enjoys periodic advantages in this trade. Exports of pure bred cattle remained stable, feeder cattle slightly down, although over the entire period appearing to increase cyclically while grade



dairy cattle shipments have declined substantially. In meats, however, Canada has become a net importer over the period, although in 1964 some recovery was made. This has been mainly due to rapidly rising imports of fresh and frozen pork, mutton and lamb, and beef and veal; increases occurred also in cured and canned beef and hams and shoulders, but were less dramatic. On the export side, pork and pork-product exports increased over much of the period but declined from 1959 until the present rise beginning in 1964. Exports of fancy meats and canned pork have increased while declines were experienced in exports of mutton and lamb and fresh and frozen beef and veal until the 1964 recovery.

Relation of Farm Exports to Production:  
Crop and Related Products

The increase in grain exports and in farm exports generally is due to increases in grain production and more importantly to larger production shares being exported.

The rise in grain exports and in farm exports generally is the result of increased wheat production in recent years and some increase in the share of production exported, traditionally around 60 per cent, but dropping below this in the mid-fifties (Table 3). This has not been the case, however, with feed grains. In the case of oats, the production level has been quite stable over the past 40 years but the proportion exported has declined to less than five per cent. The decline in barley exports has been associated with both declining production and generally in the proportion exported; however, the share exported varies annually from 10 to 40 per cent. The annual share of rye production exported is usually above 60 per cent but production has declined greatly.

Each of these grains exhibit a great deal of annual variation in

Table 3: Production<sup>a</sup> and Exports as a Per Cent of Production for Specified Agricultural Products, Canada, Selected Periods

Product	Production Millions of Dollars			Exports as a Per Cent of Production		
	1935-36 1939-40	1950-51 1954-55	1960-61 1962-63	1935-36 1939-40	1950-51 1954-55	1960-61 1962-63
- Annual Averages -						
Wheat	211	790	876	61	55	63
Oats	106	294	302	4	13	3
Barley	36	230	155	17	30	16
Corn	4	30	37	23 <sup>b</sup>	2	1
Flaxseed	2	28	55	3	47	69
Tame hay	123	282	339	1	1	1
Soybeans	-	11	13	n.a.	-	33
Potatoes	35	78	79	4	7	8
Field roots <sup>c</sup>	13	9	6	3	12	16
Cattle	56	344	510	14	19	16
Calves	16	49	69	4	1	2
Hogs	80	322	321	26	6	4
Sheep and lambs	8	12	11	1	9	2
Wool	2	4	4	41	45	51
All poultry	30	145	149	2	1	-
Eggs	43	141	151	1	3	1
Milk	142	460	554	7	3	2
Butter				2	0	0
Cheese				66	26	18
Evap. whole milk				24	7	2
Whole milk powder				26	70	78
Skim milk powder				2	20	23
Apples	11	18	25	50	18	16
Other fruits	7	24	28	8	10	4
Honey	3	5	5	13	2	12
Maple products	3	10	10	25	43	49
Tobacco	15	62	105	21	24	19

<sup>a</sup>Average farm value of production.

<sup>b</sup>Includes re-exports of corn.

<sup>c</sup>Turnips, mangels, etc.

Source: R. Berthiaume, Exports, Imports and Domestic Disappearance of Agricultural Products as a Percentage of Production, Canada Department of Agriculture, Economics Division, February, 1965.

amount exported, level of production and the share exported. This variation reflects variable market demand for the products as much as climatic factors affecting yield. Total world trade in oats, barley and rye has declined and more importantly our share of this trade and of world production has been reduced for each of these products and neither wheat acreage nor production increases have occurred in Canada to offset this movement.

Flaxseed production has increased rapidly in the past 15 years and the proportion of this crop exported has increased from 50 to approximately 70 per cent in recent years. Over three-quarters of the clover and grass seeds grown are presently exported and almost one-third of all the dry peas, beans and buckwheat. An increasing share of potatoes produced are exported, about 8 per cent, while approximately 16 per cent of the turnips are exported. Maple products continue to be exported in large amounts. Apple exports have declined from around 20 per cent of production in the early 1950's to 16 per cent, while the share of other fruit production exported is of decreasing importance. Tobacco production has increased greatly as have exports, but the share of the crop exported has declined slightly from approximately 25 per cent in the early 1950's to 20 per cent by 1963-64.

#### Livestock and Livestock Products

A small and declining proportion of the total amount of livestock and livestock products produced are exported; yet foreign markets are still a major sales outlet for certain livestock products. Up to 20 per cent of cattle production is exported annually, over one-half of the wool produced in Canada, 20 per cent of all cheese and skimmed milk powder and almost all of the whole milk powder. Many of the remaining items exported are now of declining importance compared with production even though a considerable portion of pork, eggs, milk and butter production was exported in earlier years.

Cattle numbers in Canada have increased at approximately four per cent per year over the last decade and a half, while world cattle numbers increased over three per cent. Since 1956 our rate of cattle build-up has only approached two per cent per year while hog production has remained quite stable, although since 1963 both have increased considerably. The result has been that meat production<sup>1</sup> increased by about two per cent per year from the early 1950's and a slow deterioration has taken place, going from a net exporter to a point in the early 1960's of being short in our domestic consumption requirement of meat. Population has expanded at around three per cent per year and consumer income has increased by about two per cent per year, increasing our annual requirements greatly.

The decline in egg exports and share of production exported has been due to a stabilizing of production around the 1957 level after a marked increase from the early 1950's to that time. Although fluid milk production has risen by only 1.5 per cent per year, butter production has increased at a slightly higher rate, while cheese and dried milk production has increased almost three per cent per year facilitating an expansion of exports of these processed commodities.

The foregoing trade and production figures for livestock and livestock products would suggest that for these products generally our position in world markets has deteriorated considerably over the past 15 years, although some improvement has occurred in the last two years. Production and trade data also do not support the common hypothesis that, rather than becoming less competitive in world markets, Canadian agricultural production has been diverted toward satisfying domestic demand. There is considerable evidence, though, to support the opposite argument, namely, that Canadian

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<sup>1</sup>Includes beef, veal, pork, mutton, lamb, goat, excluding edible variety meats, lard, rabbit and poultry meat.

agriculture has become more export-demand oriented, via wheat, and has suffered some loss in overall competitive position. Agricultural production has increased at a slow rate, especially livestock and livestock products, which have relatively high income elasticities compared to food grain. There has also been a greater proportion of crop production exported and increasing amounts of livestock and livestock products imported.

Origin of Canada's Farm Commodity  
Exports and their Importance

It is clear both from the wide array of commodities exported as well as the share of their production exported that foreign markets are of very direct importance as an outlet for farm products, particularly for the Prairie Provinces. However, a large proportion of farm cash receipts in other areas is also derived directly from this source. Overall, 46 per cent of total farm cash receipts of Canadian farmers were obtained from exports during the years 1963 and 1964 (Table 4). On a regional basis 80 per cent of Prairie farmers' cash receipts were received from farm exports during this recent two-year period. In British Columbia the share was 38 per cent, the Maritimes over 15 per cent, with Quebec and Ontario receiving 13 per cent of farm cash receipts direct from farm exports. Such data tell only a partial story of the importance of these farm exports since there are many indirect effects. Certainly there exists a national market for most of these exported products and price and profit effects are felt throughout the entire country. Also an increase from export sales of \$1 has multiple effects on supply industries and area employment and income. In Table 4, Column 4, minimum estimates<sup>1</sup> of the regional impact have been prepared. The

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<sup>1</sup>The multiple effect is minimum in that no consideration is given to income effects on demand.

Table 4: Regional Income Contribution of Farm Exports

Area	Farm Cash Receipts <sup>a</sup>		Share of <sup>b</sup> Farm Exports		Share of Cash Receipts from Export		Minimum Total <sup>d</sup> Regional Impact
	Av. 1963-64	%	Av. 1963-64	%	Av. 1963-64	%	
	(\$000)		(\$000)				(\$000)
P.E.I.	29,243	0.9					
Nova Scotia	45,080	1.4					
New Brunswick	45,912	1.4					
Maritimes <sup>c</sup>	120,235	3.6	18,571	1.2	15.3		26,857
Quebec	458,075	13.8					
Ontario	991,482	29.9					
Ontario & Quebec	1,449,557	43.7	194,281	12.7	13.3		485,703
Manitoba	279,370	8.4					
Saskatchewan	763,773	23.0					
Alberta	557,850	16.8					
Prairie Provinces	1,600,993	48.2	1,294,907	84.6	80.2		2,330,833
British Columbia	149,267	4.5	22,730	1.5	37.5		36,368
Total	3,320,053	100.0	1,530,489	100.0	46.1		2,879,761

<sup>a</sup>Source: D.B.S. Agriculture Division. Cash receipts exclude supplementary payments made under Prairie Farm Assistance and Western Grain Producers Acreage Payment Plan. Figures are for the average of 1963 and 1964 calendar years. Totals may not be the sum of parts due to rounding error.

<sup>b</sup>The procedure used for regional allocation of farm exports is based on that outlined by A.W. Oughtred, "The Source of Canadian Agricultural Exports by Regions, 1960," The Economic Annalist, February, 1963, p. 5.

<sup>c</sup>Not including Newfoundland.

<sup>d</sup>Includes with cash receipts obtained directly from exports the income multiplying effect on intermediate goods and are minimum in the net sense that we ignore income generating effects on final demands and effects on price levels which tend to bias downward the true multiplying effect but ignore the role of imports both nationally and interregionally which act in the opposite direction. The multipliers used for the various regions are for Maritimes 1.5, Ontario-Quebec 2.5, Prairies 1.8 and British Columbia 1.6. These have been estimated from all Canadian farm commodity multipliers derived by Jossling and Trant, An Empirical Study of Interdependence Among Agricultural and Other Sectors of the Canadian Economy, The University of Guelph, Guelph, Ontario.



regional multipliers used vary from 2.5 for Ontario and Quebec to 1.5 for the Maritimes due to differences in composition of their exports.<sup>1</sup> Looked at in this way, there is considerable regional impact from expanded export sales. For all Canada nearly \$3 billion additional income was generated on an average annual basis during 1963-64 as a result of farm exports. The corresponding figure for the Maritimes, excluding Newfoundland, was \$27 million, for Quebec and Ontario over \$485 million, for British Columbia over \$36 million and for the Prairie Provinces over \$2.3 billion.<sup>2</sup> Relative to Canada's total national income the contribution of farm exports during 1963-64 would be approximately 10 per cent of net national income at factor cost.

On a commodity basis the regional share of exports, estimated in Table 5, indicates the importance of the Prairie Provinces not only as a source of grains and related products but also of livestock and livestock products. Although production of livestock and livestock products has increased at a more rapid rate in eastern Canada in recent years, a large proportion is consumed domestically and a considerable movement from the West has developed to supplement production. The Maritimes region is generally a deficit area in livestock products although within this area considerable movement exists, particularly from Prince Edward Island to other Atlantic provinces. Almost the entire export of potatoes is from the Maritimes, together with about 14 per cent of the apples. However, British Columbia is the main fruit exporting province as well as being an increasingly important source of apple and other exports. A number of vegetables

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<sup>1</sup> These multipliers have been derived on a national commodity basis by Jossling and Trant, see footnote d to Table 4.

<sup>2</sup> Income estimates for the Maritimes, the Prairies and B.C. are undoubtedly slightly biased upward relative to Ontario and Quebec because the multipliers are not dampened for inputs imported from other regions.

Table 5: Regional Contribution to Farm Exports by Commodities, Average 1963-64<sup>a</sup>

Commodity <sup>b</sup>	Maritimes	Ont.-Que.	Prairie Provinces	British Columbia	Canada
	%	%	%	%	%
Grains	-	.3	99.7	0	100
Grain products	-	0	100	-	100
Animal feeds of vegetable or animal origin	2	13	85	-	100
Oilseeds	-	8	92	0	100
Oilseed products	-	90	10	-	100
Animals living	0	30	65	5	100
Meats	0	15	85	0	100
Other animal products	0	28	72	0	100
Dairy products	0	98	1	1	100
Poultry products	0	75	25	0	100
Fruits and nuts	25	15	0	60	100
Vegetables	5	91	0	4	100
Potatoes	95	1	1	3	100
Seed for sowing	0	10	88	2	100
Maple products	0	100	-	-	100
Honey and bees	1	35	58	6	100
Tobacco	.2	99.8	-	-	100
Vegetable fibres	-	-	100	-	100
Other vegetable products	10	55	5	30	100

Note: - indicates no exports while 0 indicates less than .05 million dollars or .5 per cent.

<sup>a</sup>The procedure followed in allocating 1963 and 1964 farm exports regionally was to up date estimates developed by A. W. Oughtred, "The Source of Canadian Agricultural Exports by Regions, 1960", The Economic Annalist, February, 1963, p. 5. Regional contributions to exports by commodity or commodity group are estimated using one or more of the following procedures; export statistics for provinces and regions, judgment of commodity specialists in Canada Department of Agriculture, export shares determined on the basis of share of production and consumption.

<sup>b</sup>For a description of items comprising each commodity group see Canada Trade in Agricultural Products with the United Kingdom, the United States and all Countries, Canada Department of Agriculture, Economics Division, June, 1965.

and vegetable products are produced and exported and an increasing number of feeder cattle move to the United States from British Columbia.

Ontario and Quebec are much more diversified in products exported and are the main source of many of these. Almost all the dairy and poultry products, vegetables, oilseed products, maple products and tobacco exports originate in these provinces.

### III. THE COMPETITIVE POSITION OF AGRICULTURAL COMMODITIES<sup>1</sup>

Some indication has been given of changes in the general trade advantage of Canadian agriculture and its relative position in world markets by observing various changes in Canada's trade pattern. To assess more accurately the level of comparative advantage requires comparing production costs at existing output levels for selected commodities important both in Canadian agricultural trade and in total farm production. These are obtained in some cases by reducing c.i.f. prices in world markets for such things as tariff charges, transport costs and export assistance so as to view both factors affecting trade and the domestic production costs. In other cases, average producer prices or a proxy variable provide the basis for inter-country comparison.

Wheat, being an important farm product affecting comparative costs of other crop and livestock products is considered first, followed by other feed grains, selected livestock and livestock products and important special products.

#### Wheat<sup>2</sup>

The absolute cost advantage enjoyed by Canadian wheat can be seen when its movement is traced all the way from the Canadian producer to the final export markets and costs are compared en route with those of competitive wheat. A detailed breakdown of comparative costs for Canadian and American wheat exported to Rotterdam and to Japan is given in Table 6. The estimated

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<sup>1</sup>The analysis in this section utilizes and expands on earlier work of D.R. Campbell.

<sup>2</sup>Much of this analysis is an expansion of studies conducted by the U.S.D.A. Foreign Agricultural Service and by W.G. Malaher, "U.S. and Canadian Movement of Wheat to the European Common Market," Searle Grain Company Newsletter.

Table 6: Comparative Costs in Exporting Canadian and U.S. Wheat

Cost Item	Canada (Canada \$)				U.S. (U.S. \$)	
	No. 2 Northern		No. 4 Northern		No. 1 Hard Red Winter	
	Rotterdam via Lakes	Japan via Van.	Rotterdam via Lakes	Japan via Van.	Rotterdam via Gulf	Japan via W. Coast
Initial producer price	1.2875	1.2875	1.140	1.140	1.28	1.28
Additional payment <sup>a</sup>	.40	.40	.40	.40	.43	.43
Total producer price	1.6875	1.6875	1.540	1.540	1.71	1.71
Country elevator	.045	.045	.045	.045	.05	.05
Rail to port	.126	.150	.126	.150	.34	.21
C.W.B. charges	.039	.039	.039	.039	-	-
Production subsidy removed					-.43	-.43
Export certificate purchased by exporter					+.25	+.25
Export subsidy to exporter					-.32	-.32
In store price	1.897	1.921	1.750	1.774	1.60	1.47
F.O.B. price	-	-	-	-	1.67	1.54
Lake and fobbing	.14	-	.14	-	-	-
Ocean transport	.125	.207	.125	.207	.150	.193
Additional charges	.101	.101	.101	.101	.033	.033
C.I.F. price	2.263	2.229	2.116	2.082	1.853	1.766
Import levy	1.43	.55	1.30	.45	1.32	.55
Final entry price	3.693	2.779	3.416	2.532	3.173	2.316
Canadian \$ equivalent	3.693	2.779	3.416	2.532 <sup>c</sup>	3.427	2.500 <sup>c</sup>

Subsidies					
Storage <sup>b</sup>	.053	.053	.053	.053	-
Net export subsidy	-	-	-	-	.07
Production subsidy	-	-	-	-	.43
	<u>.053</u>	<u>.053</u>	<u>.053</u>	<u>.053</u>	<u>.50</u>

<sup>a</sup>The additional payment to U.S. farmers is the average subsidy received obtained by weighting export and domestic marketing certificate subsidies. The basic U.S. support price for 1964-65 was \$1.30 and domestic and export certificates worth \$.70 and \$.25 respectively, each on 45 per cent of base acreage. The additional payment to Canadian farmers is an estimated final payment for the 1964-65 crop year on the basis of March Wheat Board prices. In the two previous years the final payment per bushel of No. 2 Northern was 43 cents. The two production points used for comparative purposes are Craig, Saskatchewan and Kimball, Nebraska.

<sup>b</sup>Obtained by allocating the \$28.6 million received from the Temporary Wheat Reserves Act to all wheat marketings during the crop year 1964-65 of 568.8 million bushels.

<sup>c</sup>The laid-down price in Japan is not as accurate an estimate because it is derived from costs. The import levy is estimated and final prices are not checked with actual market prices.



producer price for Canadian No. 2 Northern of \$1.69 is considerably less than the \$1.85, (\$1.71 U.S. funds), received by the U.S. producer of No. 1 Hard Red Winter in March 1965. If correction is made for quality differences, or if No. 4 Northern is used, (which sold in Rotterdam during March for approximately the same price), the Canadian producer is estimated to receive approximately \$1.54 or has a relative advantage over the U.S. producer of \$0.31 per bushel.

Argentinian River Plate wheat, selling in Rotterdam for \$1.89 per bushel, had an f.o.b. up-river price of \$1.54 per bushel during the latter part of February, 1965. When adjusted to an equal Canadian quality basis our relative cost advantage is 22 cents. In the case of Australia the f.a.s. bulk price in February 1965 was \$1.66, whereas, the c.i.f. U.K. price was \$1.99. Adjusting the Australian producer price for an average support payment of four cents raises the price to \$1.70 per bushel which if adjusted for quality differences, is about seven cents higher than that for comparable Canadian wheat.

Compared to the other major wheat exporters, Canada enjoys an absolute advantage in wheat production, the magnitude ranging from seven to 31 cents per bushel. However the high variable levy on wheat exports to E.E.C. countries, \$1.43 for No. 2 Northern entering the Netherlands and \$2.03 entering West Germany, makes all wheat and especially high-quality wheat very expensive in these countries. In Japan the import levy averaged 45 cents per bushel in 1964 from all imported wheat and would partly explain the increased interest by major exporters in supplying this expanding market. Ocean transportation costs to Japan from Canada and the United States are the same but usually one to two cents per bushel higher than Australian, tending to reduce our advantage in far eastern markets relative to Oceania.

Each major wheat exporting country assists wheat producers in some way, usually through price guarantee or support activity. For the 1964-65 crop year the Argentina support price was (U.S.\$) 1.41 per bushel; Australia increased its guarantee price to (U.S.\$) 1.73 and the quota to which this applies was raised 50 per cent. Both South Africa and the U.S. have a two-price system. In the former, support prices for export and domestic use of the 1964 crop were \$2.28 and \$2.45 respectively, while the corresponding figures for the United States were \$1.55 and \$1.95. With the exception of Canada and Argentina, production subsidies have been active in altering the competitive position of wheat by encouraging less efficient production and rising land prices. In the case of Australia from 1945 to 1957, except for three seasons, growers contributed to a Stabilization Fund as export returns were higher than the guaranteed price. Since the decline of world prices in the mid-1950's and with steady increases in their guaranteed price, rapid production increases occurred so that by 1959-60 withdrawals had exhausted this fund and Government supplementary payments have been the source of funds ever since (Table 9, Column 1).

In the United States a high price-support policy existed under the Truman administration but was reduced gradually under Eisenhower. Following a rise in wheat prices in 1961-62, the present two-price policy evolved and over-all producer-price reductions have since taken place. The effect of American support programmes, however, has been to raise the producer price of wheat and indirectly prices of all other substitutes and livestock. At the same time the wheat acreage allotment system, upon which price supports are based, although reducing total wheat production, has promoted shifts from major wheat growing areas to marginal areas, altering the relative competitive position of American wheat in world markets and requiring a

substantial export subsidy in order to sell in commercial markets. At the same time the net income of American wheat producers has not improved relative to Canadian wheat growers due to support benefits and land-rental payments being capitalized directly into land prices and costs. This is seen in Table 7 comparing net farm income and land-price movements in the Prairie provinces with Montana and North Dakota, two of the most important wheat producing states. Since the mid-fifties, land prices in Montana and North Dakota have increased by more than eight per cent per year, while Prairie land prices rose by only five per cent per year. On the other hand, net farm income increased by approximately one and 2.8 per cent respectively, the result being that the pay-back period is presently almost twice as long for a young man entering farming in North Dakota and Montana compared with his Prairie counterpart, (12 years to 5.9 years, Table 7, Column 4).

Over the past two decades all major exporters have generally maintained their position in world markets. Their share of world wheat exports in 1960-63 again approached the 1924-28 figure of 90 per cent (Table 8). This position has been maintained on the basis of expanding world demand for food and feed grains rather than relative gains to other countries in production advances or reduced prices or costs. The general rise in wheat exporters' prices is shown in Table 9. Relative to other major exporters, Canada has maintained a substantial competitive advantage in wheat production over the past decade but this appears to have been gradually reduced even though consideration must be given to the quality advantage of Canadian wheat and future demand for it. It is necessary, though, to keep separate changing competitive advantage and the changing magnitude of trade advantage. Recent sales to Russia and China have greatly expanded the commercial market in which Canadian wheat producers have a trade advantage and this is viewed to

Table 7: Comparison of Land Prices and Farm Income of Wheat Producers in Canada and the United States, Selected Periods

Item	Prairie Provinces	Montana and North Dakota
(1) <u>Value of Land and Buildings(\$mill.)</u>		
1926-29	1975	1560
1953-57	3250	3006
1960-64	-	4881
1961	4290	-
(2) <u>Annual Gross Farm Income(\$mill.)</u>		
1926-29	615	422
1953-57	1304	985
1960-64	-	1091
1960-62	1620	-
(3) <u>Annual Net Farm Income(\$mill.)</u>		
1926-29	283	162
1953-57	652	382
1960-64	-	409
1960-62	722	-
(4) <u>Payback Period, Ratio (1)/(3)</u>		
1926-29	6.9	9.6
1953-57	5.0	8.0
1960-64		12.0
1960-62	5.9	-

Source: The data covering the period 1926-57 was obtained from D. Gale Johnson, Income and Resource Effects of Canadian and U.S. Farm Policies: A Comparison, Agricultural Economics Research Paper No. 5912, 1959, p. 34.

The U.S. series has been up-dated using U.S.D.A., The Farm Real Estate Market and Farm Income Situation data. Canadian data is obtained from 1961 Census of Agriculture and issues of Quarterly Bulletin of Agricultural Statistics.

**Table 8: Production and Exports of Wheat and Wheat Flour from the Four Major Exporters, Selected Periods, Annual Averages**

Main Exporter	1924 to 1928	1934 to 1938	1944 to 1948	1954 to 1958		1960 to 1963	
	Exports	Exports	Exports	Production	Exports	Production	Exports
	mill. bu. %	mill. bu. %	mill. bu. %	mill.bu. %	mill.bu. %	mill.bu. %	mill.bu. %
Argentina	154 19	121 18	73 8	240 3	96 9	197 2	82 5
Australia	96 12	107 16	85 9	162 2	92 8	287 4	169 11
Canada	309 37	173 26	217 24	437 6	287 27	472 6	348 23
U.S.A.	180 22	44 7	459 51	1068 14	400 37	1206 15	763 49
Total	739 90	445 67	834 92	1907 25	875 81	2162 27	1362 88
World Total	825 100	671 100	904 100	7720 100	1080 100	8264 100	1550 100

Source: Export Data to 1958 from W.J. Anderson, Canadian Wheat in Relation to the World's Food Production and Distribution, 1964, p. 53. More recent data from F.A.O. Trade Yearbook, 1964, Volume 18, pp. 145-170, Production Yearbook, 1963, pp. 37-39 and the Commodity Yearbook 1964, Commodity Research Bureau Incorporated, New York.

Table 9: Wheat Producer Prices (U.S.\$ per metric ton)

Crop Year	Australia	U. S.	Canada	Argentina	France <sup>e</sup>	Germany <sup>c</sup>	Japan <sup>c</sup>	Mexico <sup>c</sup>	South Africa <sup>f</sup>
	Support Price <sup>a</sup>	Average Price <sup>b</sup>	Support Price	Average Price <sup>c</sup>					
1950		78		63	74	79	77	79	73
1951		88		67	103	105	84	102	78
1952		82		68	103	100	93	100	83
1953		64		59	103	100	95	95	85
1954		59	82	62	97	97	99	84	83
1955		54	76	60	97	99	99	89	82
1956		57	73	61	107	96	97	88	83
1957		60	73	62	80	100	102	89	83
1958	59	54	67	61	78	100	102	102	83
1959	61	54	66	61	77	101	102	93	85
1960	62	55	65	67	81	98	104	95	86
1961	65	59	66	66	82	104	111	95	87
1962	65	56	73	67	102	105	116	95	85
1963	59	62	57-73	69					
1964	63	61	57-73	70					

Source: F.A.O. National Grain Policies, 1963, p. 196, Production Yearbook, 1963, p. 294 and International Wheat Council, World Wheat Statistics, 1965, pp. 20-23.

<sup>a</sup>Guaranteed price on up to 100 million bushels of wheat exported from each season pool. For the crop year 1964-65 this was raised to 150 million bushels. <sup>b</sup>Average export return to 1963 on an f.o.b. port basis; excludes Stabilization Fund Contribution. Data for 1963-64 are export prices. <sup>c</sup>Average producer prices of all wheat. <sup>d</sup>No. 1 Northern producer price for sales to the Canadian Wheat Board. <sup>e</sup>Domestic, fair to average quality. <sup>f</sup>Class B, Grade 1, bagged f.o.b. <sup>g</sup>Fall prices 1964, August to December.



have long-range possibilities.<sup>1</sup> Such developments, however, in no way assure wheat producers of a more competitive cost structure. Increases in wheat-producer costs have taken place in Canada at what appears to be a faster rate than for other major exporters except Argentina. This has been due to rising input prices without offsetting productivity increases. Yield increases have not been encouraging, possibly due to unfavourable weather-fertilizer relationships. For example, over the period 1935-62 the annual rate of yield increase was 2.3 per cent, surpassing all countries except the United States (Table 10). During the past 15 years weather variation has obviously been the greatest force affecting Canadian wheat yields and these have not kept pace with increases in the United States. Although it is helpful to look at Canada's relative position to the United States over time, it is difficult to assess the importance of recent changes in that country. The wheat-support programme has not stymied yield increases; rather, the reverse has occurred with land being substituted with fertilizers and other chemicals. Price supports have been reduced in recent years and together with high livestock prices have resulted in increased feeding of wheat to livestock in that country. Over-all, the competitive position of the United States appears to have improved relative to this country, especially in feed wheat.

Australia has gained by its close proximity to expanding wheat markets in Japan and China; however, rising guarantee prices and encouragement of more acreage in wheat has also promoted inefficient production, reducing somewhat the competitive position of Australian wheat producers.

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<sup>1</sup> See W.J. Anderson, "Market Demand Outlook for Farm Producers," Resources For People Proceedings, Saskatchewan Resources Conference, January 20-21, 1964, pp. 111-116.

Table 10: Wheat Yields of Selected Countries

Country	1910- 1919	1920- 1929	1930- 1939	1940- 1949	Average 1949/50- 1953/54	Average 1954/55- 1958/59	Average 1959/60 1963/64	% Change 1935-39 1960-62
( b u s h e l s      p e r      a c r e )								
Africa			8.3		10.9	11.4	11.4	0.8
Argentina			14.0		17.3	19.7	19.8	1.0
Asia					12.4	12.6	13.3	
Australia	9.9	11.8	12.8	13.3	17.3	16.9	18.5	1.5
Canada	16.9	16.9	12.5	16.9	20.5	19.3	19.7	2.3
China					14.6	13.6	12.9	
Europe			22.1		23.0	24.9	28.9	
U.S.A.	14.1	14.0	13.3	17.1	16.5	21.5	24.4	2.7
U.S.S.R.			11.9		12.5	14.1	15.0	

Sources: The 1910-1949 data was obtained from D.G. Johnson and R.L. Gustafson, Grain Yields and the American Food Supply, University of Chicago Press, 1962, Table 38. The other data obtained from F.A.O., Production Yearbook, 1963 and U.S.D.A. Increasing World Food Output. F.A.S. Report No. 25, p.107.

#### Feed Grains

Oats and barley are the traditional feed sources; however, feed wheat has gained prominence as a livestock feed in North America. Corn is an important feed in Eastern Canada, while linseed oil meal and soybean meal are important supplements.

Since about 80 per cent of the oats and barley and almost all of the feed wheat are produced in the Prairies, an unfavourable wheat-export situation has a direct impact on feed-grain prices and costs. Under rising exports and high wheat prices, oats, barley and rye production have declined.

Although some barley is shipped to Britain, Japan and the E.E.C., an assessment of the competitive position of Canadian feed grains primarily with those in the United States, is undertaken due to the interrelated nature of feed grains and livestock in North America and since the United States is by far the largest world producer and exporter of feed grains.

### Barley

Comparing Canada No. 1 feed barley and United States No. 3, the March 1965 in-store Lakehead price of the former was \$1.11 per bushel, approximately eight cents less than the Minneapolis U.S. No. 3 price. Since a tariff of seven and a half cents per bushel exists both ways and Canadian Wheat Board licenses are required for imports of wheat, oats, and barley, very little trading occurred. The advantage of Western Canada barley is even greater in Eastern Canada markets, since transport costs are lower from the Lakehead than from interior Minnesota points.<sup>1</sup>

### Oats

The March price quotation for No. 1 and No. 2 Canadian feed oats in-store Lakehead was \$0.73 and \$0.70 respectively, while U.S. No. 2 white oats Minneapolis was (Can. \$) 0.70. Canada No. 1 and U.S. No. 2 white oats, 38 pounds, being more comparable gives the United States a cost advantage in these areas and to the east. Oats move in Canada from West to East with transport costs to Guelph, for example, of \$0.11 per bushel less a feed freight subsidy of \$0.08 per bushel. The Ontario<sup>2</sup> feed oat price in March was \$0.78, a price difference then of from three to eight cents higher than

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<sup>1</sup>The transport cost between the Lakehead and Guelph, Ontario is 14 cents per bushel for barley. The freight cost of transporting barley between Moorhead, Minnesota and Duluth-Superior is approximately \$0.12 (U.S.) per bushel.

<sup>2</sup>F.o.b. any Lake Ontario point.

at the Lakehead. In the eastern United States, prices are usually one to three cents per bushel higher than further west due to the substantial oats production that takes place. With the tariff of four cents per bushel separating Eastern United States and Canadian markets, little import incentive exists even if import licences were available. However, without freight subsidies and import tariffs, a significant amount of oats would be imported to Eastern Canada at March prices even though the grain trade estimate that up to a two-cents per bushel difference is required in laid-down price due to uncertainties in grades and weights of United States oat shipments. West of the Lakehead the competitive position is more difficult to assess due to the existence in Canada of non-quota prices. The Prairies are surplus producers of wheat, oats and barley and marketing quotas levied on these commodities create substantial stock build-up on farms, resulting in inter-farm sales at lower prices than those based on Lakehead quotations adjusted for transportation costs. The Wheat Board producer price reflects production cost plus storage and time preference costs and bias downward the Canadian competitive position of feed grains in Western Canada. Wheat Board pricing Policy then has a vital role in affecting the competitive position of Western feed grains, particularly of oats, and the associated livestock economy in Western Canada.

#### Corn

The United States enjoys a considerable cost advantage in corn production despite what is considered to be a high price support of \$1.25 for the 1964 crop. The Chicago No. 3 yellow corn price during March was (Can.\$) 46.65 per ton; with an eight cents per bushel tariff, this raises the price to \$49.51 and after transportation, the laid-down price in Prescott is \$63.26. The Ontario corn price at Prescott of \$64.00 and at Chatham \$55.00

per ton f.o.b., indicates crudely the location confines of our corn advantage under tariff protection of eight cents per bushel. The average American price of corn to Midwest farmers was (Can.\$) 47.50 or approximately \$15.00 per ton less than that paid by Prescott area farmers.

#### Linseed and Soybean Meal

Although about 60 per cent of world flaxseed exports are from Canada, the United States and Argentina are also important producers and exporters of meal and oil. On a flaxseed basis, Canadian producers presently enjoy a slight cost advantage over American producers. The July 1965 price of No. 1 flaxseed, delivered in Toronto, was \$2.98 per bushel while the American farm-gate price was (Can.\$) 3.12. The advantage is reflected in the American tariff of 50 cents per bushel on flaxseed and 15 cents on linseed meal entering the United States. Meal entering Canada is duty free while a 10 cent per bushel tariff is levied on flaxseed. For linseed oil meal the United States has a cost advantage; for example, July meal 32-36 per cent solvent Chicago sold for (Can.\$) 79.09 per ton, while the average price paid by Ontario farmers was \$5.14 per hundredweight, or \$102.80 per ton. American flaxseed millers appear to enjoy a great advantage in efficiency possibly due in part to location advantages over their Canadian counterparts, giving rise to our higher priced meal and difficulty in expanding meal exports beyond Britain. Argentina appears to have a great cost advantage over both Canada and the United States in flaxseed, linseed oil and meal production.<sup>1/</sup>

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<sup>1</sup> For example, in 1962 the Argentina producer price for linseed in port Buenos Aires was 7.2 cents per k.g., while the in-store Lakehead price for Canadian producers was 12.2 cents per k.g. and the Minneapolis price 12.0 cents per k.g. The 1962 U.K. c.i.f. price for Argentina meal, 39 per cent protein was 9.5 cents per k.g. and oil 25.4 cents per k.g. The corresponding U.S. price f.o.b. New York for linseed oil was 33.7 cents per k.g. in 1962. See F.A.O., Production Yearbook 1963, p. 323.

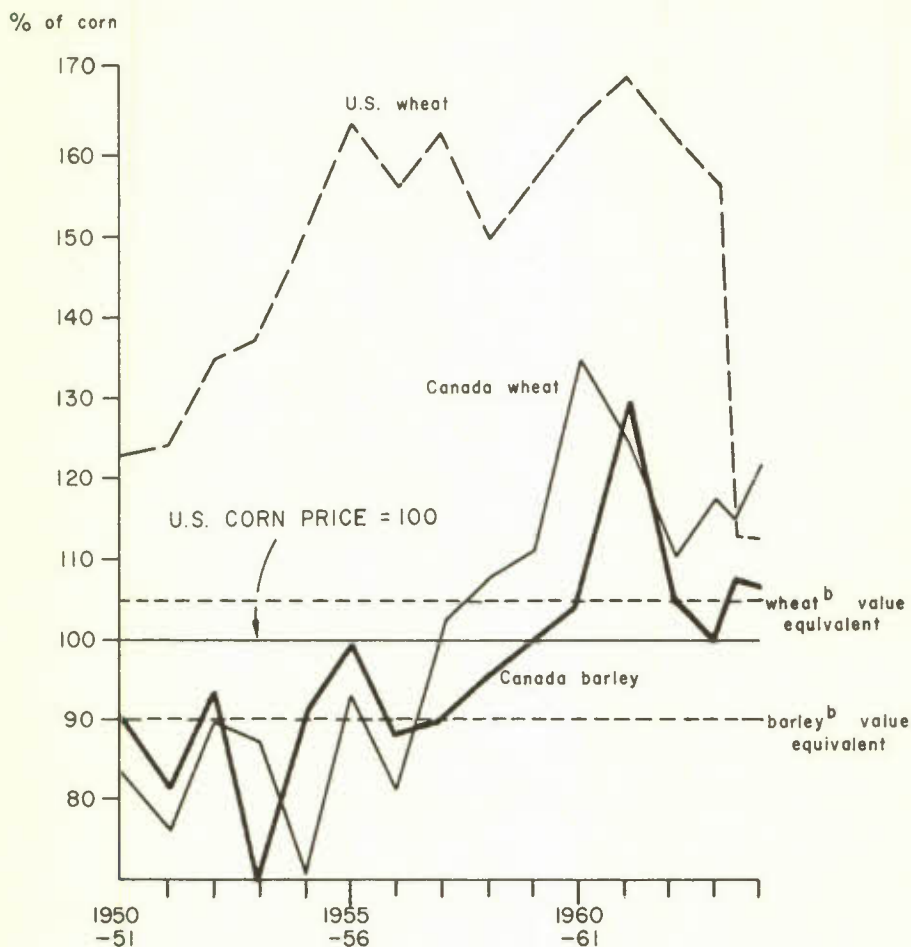
United States soybean meal also enjoys a competitive advantage and flows into Canadian markets from the Midwest free of duty. The United States price of soybean meal, 44 per cent solvent at Decatur in March, was (Can.\$) 79.27 per ton, while the price laid down in Guelph was \$93.27 per ton.

#### Feed Grain - Summary

Based primarily on March costs the United States has a relative cost advantage in feed grains and supplements, although this is partly balanced by Canadian barley and feed-wheat advantages. These positions, however, are not stable and are influenced by many secular and cyclical factors. Until recently the United States wheat and feed-grain programme greatly increased domestic feed-grain prices, particularly of wheat. Rising foreign demand has also acted to boost prices of corn and soybeans and promote their production relative to oats and barley. Since 1950, the United States has maintained and even strengthened its advantage in oats, corn and soybeans. Following the 1964 crop year, the competitive position of United States feed wheat has greatly improved even though still not competitive with Canada's feed wheat. The price of United States feed wheat is now generally below that in Canada (Figure 2) but producer returns or production costs per bushel are still substantially higher in the United States. In addition to wheat, Canada's strength has also been in barley and flaxseed, although in the case of barley the difference has been narrow in some years, due mainly to rising United States barley yields.



FIGURE 2  
BARLEY, CORN AND FEED WHEAT PRICE COMPARISONS <sup>a</sup>



<sup>a</sup> Price comparisons are for; United States No. 3 yellow corn and No. 2 Red winter wheat wholesale price, Chicago; Canada No. 1 feed barley and feed wheat in-store Lakehead export and domestic price, data for 1964-65 are preliminary estimates.

<sup>b</sup> USDA estimates of feeding value of cash grain relative to corn, wheat equal to 105 per cent of corn with oats and barley 91 per cent, see USDA Wheat Situation, October, 1964, p. 26 and Consumption of Feed by Livestock, Production Research Report No. 79.

Comparing the over-all feed grain position, the United States enjoys a substantial cost advantage over Canada due mainly to corn. Barley, oats and wheat prices both in Canada and the United States have become relatively expensive feeds (Figure 2) although United States wheat prices have been reduced sharply to compete with other feed grains in eastern and western states. In the Prairies, barley and feed wheat obviously have advantages over corn but in Eastern areas these are reduced. The in-store Lakehead price of Canada No. 1 feed barley is quite high relative to the Chicago price of No. 3 yellow corn in terms of livestock feed value. Barley prices in eastern Canada are similar to the Lakehead price due to transport costs of about \$0.32 per hundredweight to Prescott, being offset by \$0.27 per hundredweight feed freight subsidy. A \$0.12 per hundredweight tariff is imposed on corn and transport costs from Chicago to Prescott are \$0.70 to \$0.88 per hundredweight by rail. This means that under existing restraints corn has an over-all disadvantage relative to barley in eastern Canadian markets, excluding Southwestern Ontario.<sup>1</sup> The removal of any of these restraints such as the feed freight subsidy, lower freight rates on corn, or what amounts to the same thing, greater corn storage facilities, would greatly expand the competitive position of corn in Eastern Canada. Tariff removal on imported corn would appear to be of lesser importance in altering competitive cost advantages.

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Although the Chatham corn price is related to the Chicago price it is usually higher by at least the eight cent per bushel tariff, however, corn still has a considerable advantage over barley in this area.

### Livestock and Livestock Products

In addition to being a source of feed-grain utilization and directly affected by crop conditions and rotations, interrelationships also exist between livestock enterprises. In North America and especially Eastern Canada, the dairy industry has a closer link with beef production than is frequently recognized. Changes in the dairy industry have an impact on beef slaughter and also on the hog industry since skim milk is a common hog feed.

### Milk and Milk Products

In 1964, Canada produced the equivalent of 18.5 billion pounds of milk, ranking sixth as a world producer, while the United States was first with 126.5 billion pounds. Most Western European countries and Oceania are important milk producers and exporters of dairy products. During the past decade, most countries contracted dairy herds even though production increased through herd improvement. Although Canada ranked no better than eleventh in 1964 in milk-cow yield or at 60 per cent of the Netherlands level, the rate of increase has been more rapid than in most other countries. These statistics bear little resemblance to cost of production in these countries due to this being a highly protected industry in all major countries. For example, the average United States producer milk price in 1964 was (Can.\$) 4.45 per hundredweight, while the corresponding Canadian overall milk price was a very low \$3.19 per hundredweight.<sup>1</sup> Average producer prices are below this only in Denmark, Australia and in New Zealand. Dairy product export subsidies are not needed by New Zealand or Denmark to compete in world markets, however, Australia assists exports of butter, cheese and processed milk products.

Britain is almost the only free butter market and New Zealand and

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<sup>1</sup>Interestingly enough, though, the average Canadian fluid milk price appears to be the highest of any major milk-producing country.

Denmark butter is laid down there much cheaper than Canadian butter even with an 11 cent subsidy used to reduce the producer guaranteed price of 64 cents. New Zealand is also favoured with a 5 cent per pound tariff compared with 8 cents imposed on Canada and 12 cents on "most favoured nations".

In cheese Canada cheddar obtains a 10 cent per pound premium in the British market, selling for 48 cents per pound during the first quarter of 1965. It would be difficult to compete on price with New Zealand and European cheese since a six-cent export subsidy is already paid on Canadian cheese shipments and laid-down prices in London for New Zealand and Dutch finest white cheese, 35 cents per pound; however, a three-cent cost advantage prevails over American cheddar, the extent of the tariff separating North American markets.

#### Livestock and Meat

During the past 15 years North America has become a trade-deficit area in meat production. The United States is one of four large meat-deficit areas in the world and at the same time the largest world-meat producer,<sup>1</sup> yet it is also a net exporter of meats to Canada (excluding live animals). Australia and New Zealand are the other principal exporters of meat to Canada. Our meat exports are mainly beef to the United States and some cured beef and pork to the West Indies.

The whole pattern of livestock trade evolving in North America is an interrelated one and increasingly dynamic. Both Mexico and the Prairie Provinces are substantial suppliers of feeder cattle to the United States; however, for a period in 1964 this movement from the Prairies was reversed but has since returned to normal. Canadian feeders also move from the West

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<sup>1</sup> The other major meat deficit areas are the E.E.C., Britain and a fast-growing Japan.

to eastern feedlots to supplement their supply which is heavily dependent on the dairy industry.<sup>1</sup> Ontario and Alberta are the principal areas in which cattle are finished and when price ratios are favourable considerable border movement in finished cattle takes place. These shifts are sometimes quite rapid, indicating the changeable nature of the competitive position of live-stock production and the direct ties between the two areas. In 1964 during different months price ratios between the two countries varied enough to reverse both feeder cattle and beef movements. The May 1964 good feeder-steer price in Regina was \$21.71 per hundredweight, while the Kansas City price for good feeder steers, 500 to 800 pounds, was (Can.\$) 20.96. The 1964 August prices, however, were Regina \$19.35 and \$20.15 in Kansas City. On a choice slaughter-steer basis the May 1964 Toronto price was \$24.25 per hundredweight and in Chicago \$22.16, while in August this was reversed to \$24.25 and \$27.28 respectively.

Although rapid shifts due to price changes take place, a number of dampening forces slow down the trade flow and contribute to price instability, the most important being a  $1\frac{1}{2}$  to  $2\frac{1}{2}$  cent per pound tariff on feeders entering the United States and  $1\frac{1}{2}$  cents per pound when feeders enter Canada.<sup>2</sup> For fresh or frozen beef or veal the tariff is 3 cents per pound both ways and for Oceania shipments. Although competitive costs are difficult to assess due to short-run cycles, it would appear from trade flows, average prices over the past five years and in view of existing tariffs, that for average levels of western feeders produced over this period, Canada continues to

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<sup>1</sup>In 1964 approximately 200,000 feeders were recorded shipped to Ontario and approximately 85,000 slaughter cattle and calves to all Eastern Canada. Over 35 per cent of cattle-slaughter sales in 1964 of nearly 2.5 million were in Ontario and almost 30 per cent in Alberta; however, about 50 per cent of Canada's  $\frac{3}{4}$  million calf-slaughter sales in 1964 were in Quebec.

<sup>2</sup>The American tariff on slaughter-feeder cattle is  $1\frac{1}{2}$  to  $2\frac{1}{2}$  cents per pound, depending upon weight, and enter under a quota.

enjoy a substantial cost advantage. In beef the Canadian-American position is more difficult to determine even though Australia and New Zealand enjoy an advantage over both areas. The tendency for beef prices in Toronto to be slightly below those in Chicago reflect the Canadian cost advantages in forage grazing and wage rates over lower American feed grain prices, high technology levels of western feedlots, a generally warmer climate being conducive to more rapid rates of gain and lower fixed costs and a greater supply response to livestock price changes. A considerable volume of beef and veal movement exists between the two countries with Canada supplying a larger volume. Small American inflows of cured and canned beef again indicate the complementarity existing between the two beef industries, especially since Canada supplies a large volume of canners, cutters and veal from dairy herd reductions. Other beef movements appear to be influenced by a number of factors including tariffs, area supply and price variation in Canada and differences in market structures within the two areas.

Although Canada's competitive position in beef presently appears quite favourable, the future is less certain. Cattle numbers in the United States have been increasing at a greater rate than in Canada, ignoring cyclical effects. Rapid technical advances are being made in their beef feeding and significant developments are taking place in feeder enterprises in the South. Midwest farmers are purchasing increasing numbers of low-cost feeder cattle from the entire South and Southeastern United States. The longer-term competitive position of Western Canadian beef producers will be greatly affected by the future wheat and feed grain supply-demand situation while the position of Eastern Canadian beef producers is largely determined by developments in feeder cattle supplies and feed grains in both Eastern Canada and the Midwest.

In the case of hogs the United States appears to have a general competitive advantage; for example, in March 1965, Toronto Grade A dressed hogs



sold for \$27.80 plus a \$3 bonus to the producer. American barrows and gilts all weights in eight Midwest markets averaged on an equivalent basis (Can.\$) 24.45. At Edmonton the comparable price was approximately \$23.70. The differences between eastern and western markets both in Canada and the United States partly explain the trade pattern between the two countries. There are also significant differences in quality and type of pork produced which makes for complementary relationships; for example, high-quality Canadian fresh hams are exported, while lower-quality hams and pork cuts are imported into Canada. Since the removal of our embargo on American pork in 1960, the United States has increased exports. This movement takes place despite a  $1\frac{1}{2}$  cents per pound tariff both ways on fresh or frozen pork, while for hams the American tariff is 2 to  $3\frac{1}{2}$  cents per pound, depending on whether unboned or boned and the Canadian tariff levied is  $1\frac{1}{2}$  cents and up to 25 per cent on canned pork. Since 1960 hog numbers have declined generally in both the United States and Canada; however, a much greater recovery has occurred in Canada, particularly in the East since 1963. The slowdown in American pork production in recent years and price increases are partly due to a hog-cycle peak and more importantly to rapidly expanding demand for beef and the shift to beef production. Such changes then as beef and milk product prices, wheat and feed grain prices act to greatly alter the competitive position of hog production and illustrate the changeable nature of comparative advantage in livestock products between Canada and the United States.

#### Other Livestock Products

The declining state of sheep production in Canada and the increased exports of mutton and lamb from the United States and especially New Zealand, despite tariffs of six cents per pound and one-half cent per pound respectively, indicate the relative competitive disadvantage of this industry.

The position of poultry and eggs varies with specific products and between western and eastern Canada. These cost advantages in 1964 can be indicated by trade movements despite substantial tariffs. Baby chicks moved to the United States with a two-cent tariff imposed on each while turkey poults were imported under a  $12\frac{1}{2}$  per cent duty. An equal movement in exports and imports of eggs took place between Canada and the United States despite a three and a half to five cent per dozen tariff. Additional imports entered Canada from the United States mostly in birds not eviscerated. The flow to Canada in 1964 was four times that to the United States and took place despite a  $12\frac{1}{2}$  per cent Canadian duty and a two and a half cent per pound levy applied by the United States. Some eviscerated turkey movement to Canada occurred despite licensing requirements and a five to ten cent per pound Canadian tariff. Canadian broiler and turkey producers have high comparative costs relative to those in the United States, part of which is due to the  $22\frac{1}{2}$  per cent tariff on processing, feeding and ventilating equipment, higher feed costs, higher condemnation rates and slower gains in feed conversion.<sup>1</sup>

#### Fruit and Vegetables

Canada imports large amounts of fruit and vegetable products from the United States, many of which enter duty free or under specific duties imposed during our marketing season. Their general advantage stems in part from climatic differences, a greater variety of warm weather crops can be grown and an early season advantage is enjoyed, as well as due to regional location and production efficiency. There are some commodities in which Canada does have an overall advantage, namely turnips, seed potatoes, blueberries and raspberries. Others such as carrots and strawberries have an advantage in

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<sup>1</sup> The average U.S. feed conversion rate in 1940 was 4.2 pounds of feed per pound of live broiler while by 1965 this was down to 2.5 pounds. U.S.D.A. Press Release Number 2684-65, August 30, 1965.

certain regions at certain times of the year. The two products contributing greatly to our fruit and vegetable exports, apples and potatoes, both enjoy this type of regional and seasonal net advantage.

On movement of potatoes between Canada and the United States a high tariff of 37½ cents per hundredweight exists both ways;<sup>1</sup> however, Canadian early and late summer potatoes are competitive in American markets both on a price and quality basis even though variation in potato production from year to year exists and acts to alter any normal price and trade pattern. Despite generally lower prices over recent years, production has expanded, (approximately five per cent per year), in Canada due mainly to rising yields.<sup>2</sup> The most marked advances, however, have been in the Maritimes in both production and yield. As a result exports of seed and table stock have expanded considerably while imports of late summer and fall potatoes have been reduced. United States production has been quite stable over-all but a marked drop in early and late summer potatoes has occurred.<sup>3</sup>

In apple production Canada also enjoys a net competitive advantage. For example, in March 1965 the wholesale Los Angeles price for B.C. Red Delicious size 80-135 was \$5.38 per bushel while \$5.25 per bushel for

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<sup>1</sup>This is the American rate on a quota of not over 600,000 bushels beginning September 15 plus any amount by which American production estimate on September 1 is less than 350 million bushels. On amounts over this the rate is 60 cents per hundredweight up to one million bushels, then 75 cents per hundredweight.

<sup>2</sup>Although average yield increases have been more rapid in Canada over the past decade and a half, they are still well below those for the United States. For example, for the 1960-63 period the average yield for all potatoes in the United States was 320 bushels per acre while for Canada it was 252. See F.A.O. Production Yearbook, 1963.

<sup>3</sup>Maine and Idaho account for approximately 50 per cent of the fall production and have expanded their production only slightly. See Canada Department of Agriculture, Crop and Seasonal Price Summaries, Fresh and Processed Fruit and Vegetables, Volume 17, 1963-64, Part II, p. 29.

Washington Red Delicious size 64-113.<sup>1</sup> The higher transport costs and the 12-cent tariff suggest a producer-cost advantage for B.C. apples over those in Washington State. This advantage was enhanced in eastern American markets due to transport-cost advantages.<sup>2</sup> The March wholesale price in Halifax for medium Nova Scotia Red Delicious was higher than for other producing areas in Canada; however, cost advantages were enjoyed in McIntosh apples.

While Canada's apple exports have gradually increased to about three times the level of imports, adjustments have taken place in apple-producing areas of Canada. Most of the Canadian expansion has been in British Columbia with slower growth in the other areas. The Annapolis Valley has undergone considerable adjusting to improve production efficiency while competition from non-farm developments for orchard land and labour in Quebec and Ontario provided upward pressure on production costs. American production has remained quite stable over the past decade and a half; however, considerable changes have occurred in many bordering states with sharp increases in new of the world Canadian and particularly American production have not kept pace; nor have apple exports. In Western Europe, particularly West Germany, nor have apple exports. In Western Europe, particularly West Germany, France, Britain and especially Italy production has increased at very rapid rates over the past five years. The same increases have occurred in Australia and to a lesser extent in New Zealand. Although almost all of our imports are presently from the United States, with a few from New Zealand, it has been suggested that due to "controlled atmosphere" developments in

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<sup>1</sup> Both products tray pack and regular storage.

<sup>2</sup> The rate for British Columbia apples to New York was \$2.38 per hundred-weight while for Washington and California, (Can.\$) 2.44. The rate advantage is even greater to Eastern Canada markets.

other countries our net competitive advantage may be short lived with increased future imports from Oceania and Western Europe taking place.<sup>1</sup>

#### The Comparative Advantage of Canadian Agriculture

Canada maintains an over-all comparative advantage to the rest of the world in agricultural production at existing production levels. A relatively stable absolute advantage is enjoyed by many commodities, for example, wheat, barley, flaxseed, rapeseed, milk production, grade-dairy cattle, some cheeses and other milk products, tobacco, turnips and some fruit. For a number of other commodities a competitive advantage exists with selected countries but is unstable relative to the United States, varying by seasons of the year and due to regional production and transport costs, for example, feeder and slaughter cattle, hogs, a variety of meats, eggs, apples and potatoes. The magnitude of this advantage has not remained stable over time but rather Canada's competitive position in total has been reduced relative to the rest of the world. This is not reflected directly in our over-all trade picture since the magnitude of our trade advantage has been bolstered by wheat exports, but is revealed by rapidly rising imports of farm products competitive with domestic production, a relative slowdown during the past 15 years in farm production of most commodities, and the rapid increases that have occurred in costs of production both over time and relative to other countries. These cost increases have been observed on a commodity basis and are reflected directly in aggregate producer prices. For example, both prices received by Canadian farmers and farm export prices have increased approximately 1.5 per cent per year since 1957. On the other hand, as revealed in

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<sup>1</sup> See the address by Mr. A.E. Calkin, Scotian Gold Co-operative at Annual Meeting of Nova Scotia Fruit Growers Association, December 1964, Kentville, Nova Scotia and reported in January 5 issue of The Maritime Farmer, p. 27.



Table 11, import prices of farm goods entering Canada and prices received by American farmers have been quite stable for the past decade.

Table 11: Comparative Agricultural Producer Prices, Selected Periods  
(1957-59 = 100)

	1950-52	1954-56	1961-63
Canada			
Farm Prices of Agricultural Pds.	114	97	110
Agricultural Export Price Index	112	99	109
Agricultural Import Price Index	116	103	104
U.S. Prices Received by Farmer	117	98	100

Source: D.B.S. and U.S. Department of Agriculture.

A great number of factors have contributed to the rising costs of production in Canadian agriculture and many have already been discussed as they affect specific commodities. In general the most important are associated with events taking place in the Canadian economy and within agriculture. Although exchange depreciation in 1962 contributed to some of the recent rise in costs, and tariffs exist on many products used as farm inputs, the more important factor affecting costs has been the rapid rate of growth in Canada's industrial activity of seven per cent per year. Low levels of unemployment, highway expansion programmes and increased investment activity have accompanied this growth. The result has been tremendous pressure on farm input prices in all parts of Canada, particularly Ontario and British Columbia. Hired farm wage rates have increased between four and six per cent per year while farm-land prices have risen six per cent per year during the 1951-61 period. Land prices in British Columbia and Ontario increased over the same period at approximately ten per cent per year. Rapid price



increases have occurred for purchased inputs at about 3 per cent per year; for example, fertilizer prices are not only higher than in most countries<sup>1</sup> but have increased at the rate of 2.5 to 3.0 per cent per year. These price increases have been much more rapid than corresponding increases in many other countries especially the United States.<sup>2</sup>

The over-all rate of technological progress in Canadian agriculture of 3 per cent per year<sup>3</sup> during the past decade has operated to dampen some of these cost effects but has not been rapid enough to improve the net income position of agriculture. The result is that the competitive position of agriculture has been maintained in part by production adjustment and reduction in farm labour returns. Agriculture's cyclical gain appears to be closely related to wheat yields as opposed to technological superiority, implying that much of this gain has been in the Prairie Provinces. This is supported by the relative improvement in net farm income in that area. The secular rise in over-all productivity appears to be due to rapid replacement of low-productivity labour in agriculture with labour-saving machinery and equipment. The relatively rapid labour decline in the Maritimes of five per cent compared with an over-all decline of 3.5 per cent for the past decade appears to be the major source of this efficiency gain in Eastern Canada. This decline in farm operators has been mostly from the young farm group.

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<sup>1</sup>See FAO Production Yearbook, 1963, pp. 356-371.

<sup>2</sup>The prices paid by American farmers for items used in production included labour and taxes increased between 1 and 1.5 per cent per year during the 1950-64 period. Farm wage rates, though generally higher than those in Canada, increased by 3 to 3.5 per cent per year, farm machinery price increases were similar to labour but most other items had stable or lower prices. Feed prices declined and fertilizer prices have been completely stable with slight price declines in recent years; see Economic Report of President, Annual Report of the Council of Economic Advisors, Washington, 1965, p. 277.

<sup>3</sup>See I. F. Furniss "Productivity of Canadian Agriculture 1935-60: A Quarter Century of Change", Canadian Journal of Agricultural Economics, Volume XII, No. 2, 1964, p. 42.

The proportion of farmers below 44 years of age declined from 47 per cent in 1951 to 40 per cent by 1961, while those under 35 years of age declined from 22 to 17 per cent.<sup>1</sup> Since the education level of young farmers is generally higher than the older age groups, this has meant at best a stabilizing of the education level of farmers. In 1961 only 29 per cent of farm managers had more than elementary education compared to 75 per cent in non-farm businesses. The present group of young men on farms who will make up the future generation of farm operators show only slight educational improvement,<sup>2</sup> even though farm management is more complex and big business.

### Policy Implications

Farm exports are an important source of income to Canadian farmers. A variety of factors operate to alter levels of farm exports but any sustained trade must be based on comparative advantage in producing various agricultural commodities. Canada presently enjoys a comparative advantage in a number of farm products while having a disadvantage in others. Such circumstances, at first glance, might suggest that trade policy be to encourage free trade in one group but erect tariffs on the other. This policy would essentially ignore interrelationships existing in agriculture and the effects of tariffs on resource allocation and would operate to destroy the comparative advantage already enjoyed. The benefits derived by the protected industry would not only be short lived but would amount to a greater future burden being placed on the industry. Since much of our agricultural trade,

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<sup>1</sup>A great deal of variation exists by provinces in age composition and in rate of change. All Maritime provinces had substantial declines in young farmers by 1961, with two-thirds of all farmers being over 44 years of age. In Manitoba and Alberta the share of young farmers increased; see Canada Yearbook 1963-64, Table 52, p. 482.

<sup>2</sup>This is especially the case in Quebec and New Brunswick, see for example, J. Dawson, Changes in Agriculture to 1970, Economic Council of Canada Staff Study, No.11, December 1964, p. 16 and population and labour force statistics of the 1961 Census of Canada, Series 7.1, pp. 10-42.

excluding wheat, is with the United States and is characterized by the same commodities moving both ways under relatively high duties such tariff policies only act to restrict output to the detriment of both the consumer and producer. The trade policy then that is suggested both immediately and for the longer run is one responsive to the changes taking place in Canada's comparative advantage, in other countries' supply and demand, changes in the over-all Canadian economy and the many other factors continually operating to affect competitive costs. Trade policy thus becomes closely tied to domestic agricultural policy and changes associated with agricultural production.

Although Canadian agriculture presently enjoys a competitive production advantage, this has declined greatly over the past decade due to rising costs induced by rapid over-all economic growth and insufficient technological progress to offset these influences. If the present competitive position is to be maintained, this trend must be reversed, making agriculture a healthy, efficient and prosperous industry. Again a tariff policy levied on products from other countries cannot hold onto a competitive advantage or create a healthy agriculture. This is not to argue a free-trade solution to all problems but what is suggested is that rapid changes presently affecting agriculture and its many interrelationships requires a mechanism that can respond quickly and accurately to indicate what is wanted, how badly it is wanted, and whether it can be supplied. The price system serves as a valuable signal of relative changes and needed adjustments and might be used where helpful or where superior to other methods, such as favour systems lacking any definable criterion and highly susceptible to irreversible decisions.

Certainly Canadian agriculture has production efficiency problems and welfare problems but the solution of each requires individual attention and

different methods in the short run. Eventually the welfare of agricultural producers depends on their relative production efficiency and that of associated agribusiness industries who supply inputs, and move and market farm products. The production policy that is suggested then is one based on improving technological progress and efficiency in agriculture. Only a productive agriculture, not a high price one, can maintain our importance in world markets or even supply domestic needs. Major sources of productivity gains in agriculture appear to have been in fertilizer interactions and reduction of low-productivity labour. The implications for future progress are that new sources must be found or developed if these gains are to continue since there are limits to the former and the rate of decline in the agricultural labour force can be expected to slow down. The high rate of technological change required then will place extreme demands on present agricultural institutions. How well they meet this challenge of human and capital improvement and adapt to change themselves may very well determine the future organization and position of agriculture in this country. Changes in the land tenure system may be required for the orderly transfer of land resources to oncoming generations as capital needs are increased. The availability of credit, appropriate distributive agencies and proper investment criteria will play an important role in achieving a productive agriculture. Increased demands will face existing agricultural research and development agencies in generating superior agricultural technology and speeding its rate of adoption on farms. However, the greatest test may rest with educational institutions to raise the present low level of managerial ability of both existing and future farmers.

An important role would appear to exist for public agencies to facilitate these developments and create an environment that would encourage

individuals to invest time and money in proper management training allowing commercial credit institutions to make sound investments in agriculture. Similarly, an environment conducive to improvement of efficiency in marketing, transporting and exporting farm products becomes essential. The improvement of farm trade information, having more current world trade information and it being more easily obtained, would be a start in this direction.

Whatever the trade policy adopted by Canadian agriculture, it must foster efficiency, be responsive to changes and be guided to anticipate change if it is to be successful and if we are to remain an important world agricultural producer.

#### IV. RESTRAINTS ON TRADE IN FARM PRODUCTS

International trade is clearly the most uncertain sector of a national economy. It depends largely upon the rate of development in other countries, on changes in trade policy and, finally, on the competitive position of supplying nations. A decisive characteristic of international trade in farm products is the great variety of existing governmental interference in all the countries involved. Whereas the methods employed differ substantially, their common characteristic is in their aim to protect agricultural income of individual countries or of trading partners.

Efforts have been made by several workers to find a workable method to estimate the margin of protection for individual commodities by countries. Nash has taken import (or export) unit prices and defined the margin as the percentage by which the domestic price exceeds the import (or export) price.<sup>1</sup> He found that in the late 1950's (1956-59) the mean degree of protection in the E.E.C. ranged from 18 per cent on pigs to 95 per cent on milk.

Johnson made similar estimates based on a method proposed by Gavin McCrone.<sup>2</sup> His results are presented in Table 12. The comparison of margin data of 1955-56 with those of 1961-62 reflects remarkable changes under the impact of the establishment of the E.E.C.

Another rather simplified method to estimate the degree of protection would be the use of the value of farm subsidies per unit as an indicator. These results for grain are presented in Table 13 for four countries. The

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<sup>1</sup> E.F. Nash, "Agriculture and the Common Market," Journal of Agricultural Economics, XV, No. 1, p. 47.

<sup>2</sup> D. Gale Johnson, Agriculture and Foreign Economic Policies: Implication to Producers, The University of Chicago, Office of Agricultural Economics, Research Paper No. 6512, June 1, 1965.



figures were obtained by dividing the amount of farm subsidies applicable to grain by quantities produced.

In Appendix A, details are provided on the trade restraints of the major recipient countries and competitors in Canada's international trade in agricultural products.

Table 12: Degree of Protection, 1955-56, 1961-62  
Percentage

Country	1955-56	1961-62
France	24	17
Western Germany	22	39
Britain	33	29
Italy	19	25
Sweden	26	41
Norway	20	43
Netherlands	5	14
Belgium	6	13
Denmark	3	0

Source: Johnson, op. cit.

Table 13: Estimate of Protection in Selected Countries  
(Farm subsidies per grain unit ton)

Country	U.S. \$
Western Germany	11.5
United Kingdom	19.2
France	22.0
Netherlands	16.7

(Computed from data in Agra Europe, March 25, 1964)

## V. STRUCTURAL CHANGES IN AGRICULTURE: NON-CANADA

This section deals with structural changes occurring in countries which are (i) major recipients of Canadian farm product exports; and (ii) major competitors in world farm import markets. Lack of data does not permit a realistic consideration of the centrally planned economies.

The EEC commission states that "agricultural structure means the whole body of production and living conditions in the agriculture of a given region. This structure sets limits to the possibilities of combining factors of production and of organizing the farm, and it determines the living conditions of the population."<sup>1</sup> Actually we employ a somewhat more restricted definition, concerning ourselves largely with numbers and sizes of farms, capitalization, important inputs, and the resultant outputs and incomes.

While the quantitative changes reflecting structural changes are examined, we are aware of changes in the quality of productive inputs in modern farm economy. Zvi Grilliches has studied these for the United States and concluded that one-third of the increase in measured productivity is accounted for by improvements in the quality of inputs, especially the increase in education per agricultural worker; one-quarter is accounted for by the trend towards the elimination of disequilibria in the use of productive factors associated with the overpricing of labour (especially farm labour) and the underpricing of capital services by the conventional market measures of the value of these services; and the remainder is attributable to the expansion of the scale of farm enterprises.<sup>2</sup> The distressingly slow

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<sup>1</sup> Bulletin of the European Economic Community, No. 3, Supplement, Brussels, 1962.

<sup>2</sup> Harry G. Johnson, "Economic Growth and Economic Policy," based on Zvi Grilliches, "Sources of Productivity Growth; United States Agriculture, 1940-1960," Journal of Political Economy, Vol. LXXXI, No. 4 (August, 1963).

improvement in the levels of education of Canadian farm operators suggests that Grilliches's findings may not be applicable to Canada; and while factor combinations on farms outside North America are clearly different from those on this continent, the facts of mechanization and expanded scale of operations suggest that Grilliches's findings may generally be applicable. What then have been the structural changes?

#### European Economic Community

Discussion may usefully be directed to two groups of member countries. First France which is a surplus producing country, interested in markets hitherto shared by Canadian farm exports; second, the other five members, these being important customers for our commercial agricultural exports.

France.--France joined the EEC under the presumption that she would become the bread basket as well as a dominant supplier of other farm products to the Community. This country accounts for 46 per cent of the Community's farm land. The French government states that in 1963-64 there were ten million acres of uncultivated farm land. This created the myth of the "gigantic potential of French agriculture."<sup>1</sup> While there are very significant possibilities, to augment aggregate farm output by employing large acreages of abandoned land is questionable, at least for the near future.

Of the 86 million acres of land currently in use, some 35 million require consolidation. The Fourth Plan foresees the consolidation of 1.7 million acres per year at a cost of \$60 million per year of public funds. In other words, 20 if not 25 years would be needed to implement this project.

Important research has been done on the potential of French

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<sup>1</sup> Ambassade de France, France and Agriculture, New York: Service de Presse et d'Information, p. 5. If not otherwise indicated, data are from this publication.

agricultural production. This deals mainly with the extent that the above reserves might be reactivated.<sup>1</sup> Personal experience of one of the authors supported by interviews with agricultural experts in France leads to the conclusion that due to climatic, soil and marketing conditions, there are vast differences in production possibilities between regions in France. Most of the abandoned farms are located in areas where the investment needed to recultivate might be unreasonably high and adequate returns may not be expected. Actually the area of land under cultivation has decreased during the past fifteen years. Table 14 shows that land devoted to the nine leading crops decreased from 13 million hectares to 11 million hectares, or 18 per cent from the beginning of the 1950's through 1962-63.

Table 14: France: Land Used in Selected Farm Products

Crop	1948/49-1952/53	1962/63	Change
	( ' 0 0 0    h e c t a r e s )		( % )
Wheat	4,264	4,570	7.2
Barley	954	2,176	128.
Corn	332	869	162.
Linseed	44	60	36.3
Oats	2,355	1,356	-42.4
Potatoes	1,124	862	-23.3
Rapeseed	120	89	-25.8
Tobacco	29	22	-24.1
Apples	3,755	849	-78.4

Source: FAO, Production Yearbook, No. 18, 1964, Rome, Italy.

<sup>1</sup> Cf. J. Dubos, L'Etude de l'Evolution de la Production Française des Céréales. Ecole Nationale d'Agriculture de Montpellier.  
D. Grupe, "Entwicklung und Möglichkeiten der Getreideproduktion in Frankreich," Agrarwirtschaft, Vol. X, 1960, Hannover, Germany.  
G. Schmitt, Methoden und Möglichkeiten der langfristigen vorausschätzung der Agrarproduktion, EEC Study No. 3, Brussels, 1961, pp. 54-55.

Another obstacle to re-cultivation is the increasing demand for farm land. Land prices have risen by an average of 45 per cent during the past decade and demand continues very strong. The greatest demand comes from owners of larger farms. The Table shows a clear shift in land use toward wheat and feed grains.

The farm labour force decreased at an annual rate of three to four per cent, but this was accompanied by an increase in farm output averaging 4.2 per cent per year. Table 15 indicates the striking increases in purchased inputs in the 1950's. It would seem obvious that these were important in accounting for the production increases over the period. The Table shows tractor numbers to have increased more than five times in the 12-year period. In the early 1960's about 150,000 persons of African origin were employed in French agriculture.<sup>1</sup> The majority will leave the country fairly soon under present French policies. Their replacement indicates the substitution of more expensive manpower and/or mechanization. Farm wages increased from the equivalent of (U.S.\$) 20.40 per month in 1951 to \$45.60 in 1962, or by 123 per cent. Whereas the value of both land and of labour inputs has increased, under the more favourable income situation, large outlays have been made on machinery, livestock and other inputs. State aids to agriculture were \$400 million (U.S.) in 1954; moved to \$733 million by 1959; and reached \$1,322 million in 1962. Farmers' terms of trade have improved markedly, since prices received increased by 22 per cent during the period 1960 to 1964, while prices paid by farmers rose by only eight per cent during the same time period.<sup>2</sup>

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<sup>1</sup> L.A. Fischer, Future of Canadian Wheat Exports to the Common Market Countries, Macdonald College, McGill University, p. 39.

<sup>2</sup> FAO, op. cit.

Table 15: France: Selected Purchased Inputs in Agriculture

Input	1948/49-1952/53	1962/63	Change ( % )
Fertilizer ( '000 m. tons)			
Nitrogenous	251.7	672.8	171
Phosphate	454	1,034	128
Potash	362	910	151
Tractors (no.)	148,142	804,400	443
Combined Harvester Thresher (no.)	17,738	68,500	286

Source: FAO, Production Yearbook, No. 18, 1964.

Changes in farm practices reflecting improved input quality is indicated by the fact that the quantity of bread grains used for animal feed increased by 245 per cent while coarse grains rose by 97 per cent during the past fifteen years.

There is a guided national economy in France. Agricultural policy has been directed in accordance with the programmes laid down in governmental plans. Funds approved for agricultural aids are transferred to government agencies, which use these for particular projects. This flexibility in budgetary arrangements has enabled the French to make quick adjustment of agricultural policy to meet changing situations.

Structural changes have been supported by funds employed in these programmes, the essential being to strengthen comparative advantage for the production of certain commodities. Table 16 indicates the emphasis on adjustment of production. The choice of the commodities selected for support takes account of preferential status implied in membership in the EEC, as well as



Table 16: Aids to French Agriculture, 1964-65 (Million U.S. \$)

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1. Export subsidies . . . . .	237.5
2. Income support . . . . .	513.8
3. Aids to adjustment of production . . . . .	890.7
4. Others . . . . .	121.0
Total . . . . .	1,763.0

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Source: Agrarpolitische Revue, Brugg, Switzerland, April 1965, p. 306.

the shifting demand resulting from improved incomes in Western Europe. A third factor in French policy is the planned expansion of trade both with underdeveloped and Eastern European countries. In summary, the main concern of current French agricultural policy is (a) to control the grain market in Western Germany and in Benelux by displacing wheat imports from non-members, particularly the United States; and (b) to expand animal production in order to benefit from the increasing demand for meat on the entire European continent. There are no limits on meat production in the Plan, and the data of the foregoing tables illustrate the dynamic development in the production of feed grains (including soft wheat), livestock, poultry and meat.

The value of final agricultural production increased from \$4.7 billion to \$7.5 billion between 1954 and 1961. Yet French agriculture is likely far from an optimum production level. In 1955 France's gross agricultural product per capita was half that of the Benelux countries and one-third that of the United States, and the value of gross agricultural output per acre of usable land was lower than the average for the EEC. Over 75 per cent of the farms enumerated in the 1955 Census were less than 20 acres in size. Thus large increases in output are possible through the difficult route of

rationalization and through consolidation of holdings. They may also come about through the use of more purchased inputs, and improvement in the quality of inputs. In 1963-64 France had achieved 110 per cent of self-sufficiency in grains, 100 per cent in meats, and produced small surpluses of dairy products (Appendix B, Table I).

West Germany, Benelux and Italy.--Inquiry into structural changes occurring in these member states of the EEC will be limited largely to their relevance to Canada's trade position. In other words, we shall examine whether the current trend of agricultural productivity bears a trade-diverting or a trade-creating effect for Canadian agricultural exports.

In recent years, about 35 per cent of the gross imports of wheat into the EEC was supplied by Canada and consisted mainly of hard wheat; almost 20 per cent came from the United States; and slightly less than 10 per cent each from Argentina and the U.S.S.R. The United States and Argentina were the principal suppliers of imported coarse grains, providing 40 and 25 per cent respectively. Maize has predominated, accounting for about half of total gross imports, while barley represented 30 per cent.<sup>1</sup>

Since the Common Market countries impose higher import duties on vegetable oils than on oilseeds, large tonnages of oilseeds move to the EEC mainly from the United States, Canada, Nigeria, the Philippines, Indonesia, and China.

Compared with production for domestic needs, international trade in dairy products is very small for the Community as a whole. There has been a steady increase in exports to non-EEC countries, but at the same time imports from these countries have increased by about the same amounts. Denmark and

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<sup>1</sup> FAO, Agricultural Commodities and the European Common Market, 13 FAO Commodity Policy Studies, Rome, 1962, pp. 20, 21, 30.

Sweden have been the main outside suppliers and the Netherlands is the chief supplier within the Community. The EEC is just self-sufficient in dairy products (Appendix B, Table I).

Imports of live animals, meat and meat products into the five countries average \$600 million annually. Exports from member countries have been rising rapidly with France and the Netherlands dominating the market supplying about 40 per cent of the imports of other member countries. About half of the imports have been supplied by other European countries among which Denmark, Sweden and Yugoslavia are the leading suppliers. The United States' share accounts for some six per cent of imports and Canada's participation is negligible.

Netherlands agriculture shows the highest productivity rates, as well as the relatively highest per capita income of the rural population among the EEC members. Her gross agricultural product increased between 1949 and 1961 by 60 per cent. Input of farm labour decreased by 20 per cent, whereas purchased inputs, including imported feed, increased by 110 per cent during the same period.<sup>1</sup>

Analysing the Dutch economy, Saudie maintains that "agricultural practices in the Netherlands are already so near to the technological optimum that little can be expected from further reduction of that distance to that optimum. . . . As inputs rise faster than outputs, value added will tend to grow very slowly indeed."<sup>2</sup> The Netherlands is the only country where fertilizer input has not increased in recent years. Dutch farmers have recognized their comparative advantage in animal production and the latter now occupies the central position in the more or less "guided"

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<sup>1</sup>L.A. Fischer, op. cit., p. 34.

<sup>2</sup>H. Saudie, "Possible Economic Growth in the Netherlands," Europe's Future in Figures, Amsterdam, North Holland Publishing Co., p. 169.

agricultural policy. Total funds allocated for agriculture in 1965 amount to \$203 million, whereas \$217 was budgeted for 1964. This decline is largely due to reduction in the direct subsidies to farmers. All other items of the agricultural budget have been raised, with land development getting the largest increase.

In Belgium the predominance of fragmentary farm units characterizes agriculture. The creation of the EEC has encouraged industrial expansion; hence, labour has transferred from agriculture to other sectors of the economy. The number of tractors increased from 12 to 60 thousand from 1950 to 1963. Nitrogenous fertilizer-use increased from 77,000 to 151,000 metric tons. Concurrently, yields of wheat and barley increased from 28 to 33 bushels and from 26 to 32 bushels per acre respectively. Related figures for meat production are 124,000 to 274,000 metric tons.<sup>1</sup>

The Federal Republic of Germany is Canada's most important customer among the Common Market nations. Productivity has increased substantially in German agriculture due to improved management and a great expansion in the application of purchased inputs. Some examples of this are given in Table 17.

Whereas the total volume of inputs underwent very small change, an important shift in composition and quality of inputs occurred during the 15-year period. Plate et al made an input-output model of West German agriculture for the period 1950 to 1960.<sup>2</sup> This period was characterized by exceptionally vigorous economic growth. While the pace of industrial growth became somewhat slower in recent years, the trend of structural changes coincides well with that described and forecast in this study. A very great

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<sup>1</sup>FAO, Production Yearbook, Vol. XVIII, 1964.

<sup>2</sup>R. Plate, E. Woermann, D. Grupe, "Landwirtschaft in Strukturwandel der Volkswirtschaft," Agrarwirtschaft, Londerheft No. 14 (1962), Hannover.

Table 17: West Germany: Selected Input and Production Data

Item	1948-52	1963
Number of tractors	164,144	1,053,166
Fertilizers used ('000 metric tons):		
Nitrogenous	365.0	746.4
Phosphate	405.5	755.7
Potash	660.3	1,125.4
Yield per hectare (kilograms):		
Wheat	26.2	35.1
Barley	23.9	31.1
Maize	22.4	36.4
Production ('000 metric tons):		
Meat (except poultry)	1,407	2,964
Poultry meat	42	121

Source: FAO, Production Yearbook, Vol. XVIII, 1964.

increase of farm wages occurred in West Germany as monthly farm wages rose from the equivalent of (U.S.) \$16.7 in 1950 to \$71.2 in 1963, an increase of 326 per cent. As a result of migration from farms, the number of paid farm workers was reduced from 885,000 in 1951 to 299,000 in 1963-64. Table 18 reveals the changing structure of cash farm expenditures reflecting the growing role of purchased inputs in the agricultural industry.

In Italy, farming was characterized by extremely low outputs and generally insufficient use of resources other than labour prior to the land reforms initiated in 1950. The major objective of these reforms was to increase productivity and adjust production patterns to market requirements. The establishment of the EEC created comparative advantages for the production of maize, fruits and vegetables. Besides emphasizing these aims, the

Table 18: West Germany: Wages and Purchased Inputs in Agriculture  
Millions Deutsche Mark

Crop Year	Cash Wages	Material Inputs	Crop Year	Cash Wages	Material Inputs
1950-51	1,384	5,027	1958-59	1,865	10,514
1951-52	1,509	6,121	1959-60	1,649	11,904
1952-53	1,615	6,432	1960-61	1,594	12,221
1953-54	1,679	6,723	1961-62	1,657	13,329
1954-55	1,709	7,798	1962-63	1,742	13,663
1955-56	1,813	8,173	1963-64	1,761	14,020
1956-57	2,010	8,916	1964-65	1,823	14,822
1957-58	2,100	9,755			

Source: Nieschutz, A. and H. Richnow, "Produktion, Verkaufserlöse und Betriebsausgaben der Landwirtschaft im Bundesgebiet," Agrarwirtschaft, Vol. XIV, No. 2 (1965), Hannover, Germany.

government "Green Plans" also encourage the restriction of wheat production. Generally, the Plans have contributed considerable funds for improvement measures. The amount of these funds has not been published.

The target given in the Saraceno Report<sup>1</sup> is to "create the necessary conditions in agriculture to enable agricultural productivity to match non-agriculture productivity." Another target is to increase non-agricultural productivity by four per cent per annum. Dealing with the off-farm movement, the Report estimates that 150,000 people a year are leaving the farms. This emphasizes the fact that agriculture is going through a period of rapid change in its structure. The number of tractors increased by 431 per cent,

<sup>1</sup> Rapporto de Vice Presidente della Commissione Nazionale per la Programmazione Economica. Presented to the Italian Parliament as a supplement to the General Report on Italy's Economic Situation, 1963.



the use of nitrogenous fertilizers by 158 per cent during the past fifteen-year period. Taking the average of 1948-49 to 1952-53 as a basis of comparison, wheat acreage has declined by about eight per cent, leaving total output practically unchanged. On the other hand, maize yields and total output increased by 79 and 60 per cent, respectively. This has provided the basis for doubling total meat production.

In summary, the common characteristic of structural changes in agriculture in these five countries has been the rapid growth of physical output. The index numbers of per capita total agricultural production in 1963-64 based on the average of 1952 to 1957 were 116 for Belgium-Luxembourg, 114 for West Germany, 112 for Italy and 105 for the Netherlands.<sup>1</sup>

In approaching the question raised at the outset, whether structural changes would have trade-diverting or trade-creating effects, one has to consider that planning is aimed at self-sufficiency within the Community as a whole. To the extent that this goal is achieved, the policy effect would be trade-diverting. But actually Community production of meats has not kept up with demand. Self-sufficiency in these products is less than ten to fifteen years away. On meat, hard wheat and fruit the gap between supply and demand has increased sharply. On the other hand, both expansion of quantity and improvement of quality of fruits (apples, grapes) in Italy and certain southern regions of France occurred. The expansion of feed grain production and the use of purchased inputs has allowed a rapid increase in livestock production with improvement in quality.

There is no question about the physical possibility of producing livestock needed for self-sufficiency. However, there appear to have been technological and economic barriers to expanding output so as to increase

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<sup>1</sup> FAO, Production Yearbook, No. 18, 1964.

self-sufficiency. But in broiler production this has been achieved or soon will be. Yet, every student of EEC agriculture holds the view that feed grain requirements cannot be met by intra-Community production.

United States.--An examination of productivity trends in American agriculture indicates that tremendous changes in the industry occurred over the past 20 years. Total production increased from an index value of 87 in 1949 to 108 in 1962 (1957-59 = 100) while total inputs showed almost no change. The composition and the quality of inputs, however, has been changing essentially. Appendix B, Table II presents data on changing acreage, yields and production of major crops for important producing countries. For a quick review, data for basic commodities are depicted in Table 19.

Generally, farmers have reduced acreage and substituted fertilizer and other inputs for land taken out of cultivation. Table 20 shows the increase of productivity in the post-war years. In considering the changing composition of inputs, Table 21 provides further information. The data clearly indicate the shifting inputs from labour to a group of inputs which we may identify with "technological progress." The quantitative change of inputs in United States agriculture is characterized by a reduced input of labour, a relative decline in land input and by growing input of capital. Capital inputs in agriculture may be divided into two major groups: (1) capital investment, and (2) operating expenses. Capital investment, consisting of expenditures for buildings and machinery and equipment, is estimated by the authors as representing ten to twelve per cent of total farm inputs in the 1960's. Mechanization brought about an increased demand for specialized machines rather than "traditional" labour-substituting machines. For instance, the number of tractors and combines increased much more slowly than cornpickers or pickers-shellors, the number of which was 485 thousand in the

Table 19: United States: Changes in Acreage and Output of Selected Crops  
(Base Period: 1948/49-1952/53; Target Year: 1963/64)

Crop	Area	Production
Wheat	-34.1%	no significant change
Barley	14.0%	51%
Maize	-18.0%	40%
Tobacco	-29.4%	11%

Computed from data collected in Appendix, Table II.

Table 20: United States: Agricultural Productivity: Index Numbers of Farm  
Output per Unit of Input, 1949-62, (1957-59 = 100)

Year	Productivity
1949-52	86.5
1953-56	92.8
1957-60	101.3
1961	106.0
1962	107.0

Source: Computed from data in Agricultural Statistics, 1963, United States Department of Agriculture, p. 459.

Table 21: Total Farm Input: Index Numbers of Farm Input by Major Inputs, United States, 1949-62.  
(1957-59 = 100)

Year	Total Input	Farm Labor	Farm Real Estate	Mechanical Power and Machinery	Fertilizer and Lime	Feed, Seed, and Livestock Purchases <sup>1</sup>	Miscel- laneous
1949	101	152	95	80	61	69	82
1950	101	142	97	86	68	72	85
1951	104	143	98	92	73	80	88
1952	103	136	99	96	80	81	88
1953	103	131	99	97	83	80	91
1954	102	125	100	98	88	82	91
1955	102	120	100	99	90	86	94
1956	101	113	99	99	91	91	98
1957	99	104	100	100	94	93	95
1958	99	99	100	99	97	101	100
1959	102	97	100	101	109	106	105
1960	101	92	100	100	110	109	106
1961	101	89	100	99	114	116	109
1962 <sup>2</sup>	101	85	100	96	123	120	111

<sup>1</sup> Nonfarm portion of feed, seed, and livestock purchases.

<sup>2</sup> Preliminary.

Source: United States Department of Agriculture, Agricultural Statistics, 1963, p. 459.

1949-52 period and 820,000 in 1963.<sup>1</sup> Operating expenses, inclusive of hired labour, were \$28.2 billion in 1962, the largest item of which was feed, purchased at \$5.5 billion. The considerable shift of relative importance of operating resources might be illustrated by data in Table 22. Total farm population decreased by 23.5 per cent from 1949 to 1963 and its share of total population fell from 11.2 per cent to 7.6 per cent. Labour required on farms, i.e., man-hours of labour used for all farm work, has decreased by 44 per cent, from 16.2 million to 9.1 million hours over the same period. This decrease was 46.2 per cent for all crops and 37.8 per cent for the livestock sector.

Production per man-hour increased from an index value of 71 in 1953 to 127 in 1962 for a nine year gain of almost 80 per cent. During the same time period, the numbers of people supplied with farm products by one American farm worker and related factors increased from 14.9 to 28.6.

Table 22: United States: Percentage Change in Farm Production Expenses, 1949-62, \$ Millions

Item	1949	1962	Change
Feed purchased	3,024	5,470	+ 81
Livestock purchased	1,529	3,099	103
Fertilizer and lime	895	1,542	72.3
Hired labour	2,865	3,008	5
Interest on farm mortgage	243	735	202
Repairs, depreciation and miscellaneous	6,953	11,042	58.8
Total production expenses	28,202	18,032	56.3

Source: Computed from Agricultural Statistics, p. 492.

<sup>1</sup>USDA, Agricultural Statistics, p. 442.

Even with the remarkable gains in productivity and the very costly production control, price support and surplus disposal programmes, farm net incomes have changed little over the past ten years and are well under those of the 1950-52 period. However, net income per farm and per worker increased significantly, reflecting the reduction in farm numbers and in the farm labour force. The cost of goods and services purchased by farmers has risen by nearly one fourth since the late 1940's while farm prices have declined slightly.<sup>1</sup>

Australia.--The trend of structural changes in Australian agriculture differs from that in North America and Western Europe. Land area in farms rose from 950 to 1,190 million acres from 1948 to 1962.<sup>2</sup> Most of the additional land brought into production was in Western Australia. The most useful body of data respecting land use is in Appendix B, Table II. These data indicate large increases in wheat and barley production. Their acreage has increased during the past 15 years by 44 and 79 per cent respectively, while yield increased by 20 and 3 per cent. The increase of wheat production was 73 per cent and of barley 85 per cent. A further phenomenon is the tendency to diversification of agricultural production away from sheep-monoculture to diversified crop and meat (largely beef) production. Data on livestock and livestock products (Appendix B, Tables V - VII) provide further evidence to the structural changes involved.

Capital inputs increased sharply. The substitution of tractors for horses has taken place and other equipment has been introduced in farming. The course of mechanization and the growing input of fertilizer are shown in Appendix B, Tables IV and V. Tractor numbers rose by 105 per cent from 1949-52 to 1963; fertilizer tonnage rose nearly 150 per cent.

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<sup>1</sup> Agricultural Statistics, 1963, United States Department of Agriculture, p. 476-7.

<sup>2</sup> F.A.O., Production Yearbook 1953 and 1963, p. 7.



Using a 1952-53 to 1956-57 base period, the FAO index number of total food production increased from 98 in 1952-53 to 142 in 1963-64.<sup>1</sup> With the rapid expansion of agriculture, off-farm migration has not been as important as in North American or Western European countries. Generally, farming has yielded higher incomes per worker relative to non-agricultural than has prevailed in European or North American countries. In the past five years farm products represented an average 78 per cent exports. Farm exports to the United States have doubled in the past five years. About one-half of Australia's food exports are cereals, about 25 per cent of meat and the rest is composed largely of fruit and dairy products. The annual export of about 900,000 metric tons of wool is not included in the above figures.

Argentina.--Land in farms remained almost unchanged from 1948 to 1957.<sup>2</sup> A new programme for agriculture has been outlined in the National Development Plan for the period 1965-69 presented by the Government in October 1964. The general aim of the programme is to stimulate increased production and to counterbalance the loss of purchasing power due to inflation and poor farm management. Private enterprise is encouraged to make capital investments in agriculture in order to modernize the industry. No specific production targets have been set; however, it is evident that the aim is to restore at least the prewar level of output.

The prerequisite for such a development is the adequate use of the vast agricultural resources of the country. Included in the Plan was a study on agriculture of "las pampas" which shows the expected changes during the period.<sup>3</sup> Attempting to develop a co-ordinated policy for increasing

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<sup>1</sup>FAO Production Yearbook 1964, p. 31.

<sup>2</sup>FAO Production Yearbooks.

<sup>3</sup>The balance of this paragraph is largely quoted from Agriculture Abroad, Vol. XX, No. 1 (February, 1965), Department of Agriculture, Ottawa, p. 36.

productivity in the region, the Development Plan considers of first importance the dual purpose of expanding cultivated land and increasing per unit output. A lack of capital for investment in agriculture exists both in the private sector and in the public sector. Thus, the most realistic approach to the problem lies in the re-allocation of funds already being used in the agricultural sector, complemented with some additional capital investment.

During the 1958-63 period approximately 37 per cent of seed corn, 15 per cent of seed wheat and 6 per cent of flaxseed, were high quality seeds. The Plan calls for over 80 per cent of the corn sown in 1969 and from 40 to 50 per cent of wheat, flax and sunflower seed to be obtained from quality stock of the newest and best varieties.

Production data in Appendix B, Table II show that land area devoted to wheat and corn production has increased during the past 15-year period by 20 and 72 per cent respectively. There is a very substantial improvement in yields of corn, hence total production doubled in the period. On the other hand, output of wheat shows little increase. The large crop of 1963-64 resulted mainly from exceptionally favourable climatic conditions. Due to this unique harvest, Argentina could enter world markets for the first time in many years as an important exporting country. On the other hand, for the first time in the modern history, imports of beef became necessary. There is a general state of disorganization and inefficiency in the livestock production. Reorganization of beef production requires intelligent planning as well as technical and financial aid to producers.

During the period 1948-49 to 1960-61, Argentina more than doubled tractor numbers. Later data are not available, nor are data on fertilizer use.

In summary, Argentina has a considerable comparative advantage in flaxseed and corn production and it could develop a comparative advantage in

all grain production. Hence, it must be regarded as a possible competitor on the world market. It must also be noted that Plata wheat has been accepted as a "high quality wheat" by most of the importers. As far as animal products are concerned, there is no prospect that Argentina will in a decade or two resume her old position in the world market.

## VI. STRUCTURAL CHANGES IN AGRICULTURE: CANADA

The study of comparative advantage both by regions and by commodities involves the analysis of structural changes which occurred in Canadian agriculture during the post-war period. Structural changes may be indicated by the changing uses of productive resources. Therefore, we first examine the changes in factor inputs and then the changing pattern of output.

Land.--Improved land in farms increased from 96.9 million acres in 1951 to 103.4 million in 1961 or by seven per cent. This was mainly as a result of the expansion of 11 per cent in the Prairie Provinces. During the same period there was a decrease in the Maritimes, Quebec and Ontario of 22, 11 and five per cent respectively. British Columbia increased improved acreage by 14 per cent. With a large decline in the numbers of farms over the decade,<sup>1</sup> the average size of farms, as indicated in Table 23, increased very

Table 23: Canada and Regions, Average Size of Farms, Acres

Region	Total Land			Improved Land		
	1951	1961	% Change	1951	1961	% Change
Atlantic	123	132	7	37	55	49
Quebec	125	140	12	66	82	24
Ontario	139	149	7	85	99	14
Prairies	498	609	22	288	384	33
British Columbia	178	194	9	44	65	48
Canada	279	336	20	156	215	38

Source: Census of Agriculture, and S.H. Lane "Recent and Comparative Changes in Canadian Agriculture," C.A.E.S. Workshop Report 1963, p. 11.

<sup>1</sup> Fourteen per cent for Canada, using the 1951 definition of a farm in both 1951 and 1961; 25 per cent for the Atlantic Provinces; 19 per cent for Quebec; 20 per cent for Ontario; 16 per cent in the Prairie Provinces; and nine per cent in British Columbia.

substantially--more than one third for Canada as a whole. This by itself would obviously greatly strengthen the position of the farm industry, beset as it has historically been by problems of small scale and inadequate capitalization.

In a broad sense the relative strength of the agriculture of the various regions of Canada is revealed by measures showing the proportion of farm units which are of such small size or so inadequately capitalized to allow efficient production. By an arbitrary definition it may be assumed that an adequately capitalized farm might have annual sales of \$10,000 or more. The proportion of census farms and the percentage of total farm sales in this category in 1958 are shown in the following Table:

Region	% of Farms	% of Farm Sales
Maritimes	3 (14)	20 (51)
Quebec	5 (21)	22 (54)
Ontario	14 (37)	45 (75)
Prairies	9 (32)	32 (66)
B. C.	9 (27)	48 (77)
Canada	9 (29)	34 (66)

Source: J.M. Fitzpatrick and C.V. Parker, "Distribution of Income in Canadian Agriculture," p. 5. (Mimeo)

Thus only a small proportion of Canadian farms (from three to 14 per cent depending on the region) is adequately capitalized by this definition, and from 20 to 48 per cent of agricultural output comes from such farms. If in place of minimum sales of \$10,000, a minimum of \$5,000 is used, the percentages in the columns are shown in brackets. By this more modest and likely far too low criterion about two-thirds of Canada's agricultural output would

come from the 30 per cent of all farms which would be defined as adequately capitalized. Regardless of the standard used, the data reveal an important feature of the Canadian farm industry--the comparatively large output per farm of the largest ten per cent or 30 per cent of the farms.

Labour.--The labour force employed in agriculture has declined from 939,000 in 1951 to 630,000 in 1964, or by one-third, and accounted for less than ten per cent of total labour force in 1964.<sup>1</sup> The downward trend took place in all the provinces. The greatest reduction in the farm labour force was in Quebec, some 50 per cent. Next was the Maritime Provinces, a 39 per cent reduction. In Ontario, the Prairie region and British Columbia, the labour force was reduced by 33, 23 and 21 per cent respectively. The rate of decline is very much dependent on the nearby non-agriculture employment opportunities and the rate at which mechanization of farm production increases. More people have left agriculture in regions where alternative job opportunities were available. According to Professor Lane, "regionally, we find that Ontario and British Columbia offered the greatest opportunities for new employment during the decade 1951-61. Although there was an absolute growth in employment in the Prairie region during this period, the rate of growth was less than the national average."<sup>2</sup>

Capital.--Capital inputs in agriculture may be divided into two groups:

(a) capital investments, and (b) operating expenses (exclusive of labour).

Table 24 shows the changes which took place in machinery and equipment investment between 1951 and 1961. The number of tractors increased by 30 per cent in Canada. In general, the increase was greater in Eastern Canada than

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<sup>1</sup>D.B.S., The Labour Force (April 1965), Catalogue 71-001.

<sup>2</sup>Lane, op. cit., pp. 10, 12.



Table 24: Farm Machinery and Equipment by Regions, Number

Item	Year	Maritimes	Quebec	Ontario	Prairie Provinces	British Columbia	Canada
<u>Automobiles</u>							
	1951	19,288	41,602	114,870	141,337	12,557	329,667
	1961	18,526	55,385	110,773	158,938	14,322	357,944
<u>Trucks</u>							
	1951	12,650	19,167	41,486	113,512	9,291	196,122
	1961	14,590	26,597	62,812	185,983	12,004	302,012
<u>Tractors</u>							
	1951	12,430	31,971	105,204	236,930	13,148	399,683
	1961	4,351	70,697	150,046	290,700	16,974	549,789
<u>Combines</u>							
	1951	245	420	10,031	79,117	687	90,500
	1961	1,570	3,046	22,387	127,276	1,331	155,611
<u>Balers</u>							
	1951	-	-	-	-	-	-
	1961	4,081	13,212	28,061	41,488	2,679	89,522
<u>Forage Harvesters</u>							
	1951	-	-	-	-	-	-
	1961	396	1,551	8,945	4,663	1,208	16,764
<u>Milking Machines</u>							
	1951	4,188	17,632	37,464	8,770	3,129	70,883
	1961	6,553	34,724	44,284	17,191	3,365	106,119

Source: Census of Agriculture, 1951 and 1961.

in the West. The number of trucks used for farm purposes rose 54 per cent in Canada over the same period. The greatest increase was 94 per cent in Prince Edward Island. The number of grain combines increased by 72 per cent. The increase in the Prairie Provinces, although smaller than in the eastern provinces, is still very significant. In Manitoba and Saskatchewan the number of grain combines increased by 55 and 51 per cent respectively, whereas in Alberta the number rose by 85 per cent.

The number of electric motors increased by 126 per cent; the largest increase took place in the Prairie Provinces. In 1961, the number of electrified farms in Canada was reported at 409,882. The percentage of farms which made use of electric power in 1951 and 1961 is shown by provinces in Table 25.

Table 25: Percentage of the Farms Using Electric Power, 1951 and 1961

Year	Can.	N.F.	N.S.	P.E.I.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
1951	51	38	71	22	60	67	74	48	16	25	69
1961	85	66	91	78	96	97	95	90	66	72	87

Source: Calculated from the Agriculture Census, D.B.S.

As noted for other countries, the increase in purchased inputs is one of the most significant structural changes in agriculture in the post-war period. These are measured for Canada by the cash operating expense item in D.B.S. farm net income statistics. These increased by 63 per cent from 1951 to 1964, while cash income from farming operations increased only by 22 per cent. In fact, cash operating expenses in some provinces now take up 85 and 83 per cent of cash farm income in Nova Scotia and New Brunswick (Table 26). This leaves only 15 and 17 per cent of cash income to be set against

Table 26: Operating Costs as a Percentage of Cash Farm Receipts

Area	1951-54	1955-58	1959-61	1962-64
P.E.I.	55	61	66	72
N.S.	86	76	80	85
N.B.	69	69	75	83
Quebec	54	64	71	70
Ontario	48	60	66	66
Man.	42	51	50	51
Sask.	39	45	43	42
Alta.	43	46	46	49
B.C.	71	62	63	59
Canada	47	54	57	57

Source: Compiled from Q.B.A.S., various numbers.

depreciation charges, interest on owned capital, and labour and management return--obviously entirely inadequate. The special position of potatoes and apples in such a general setting are considered in Chapter III.

One of the largest inputs included in operating costs is fertilizer. Table 27 shows the fertilizer expenditures in constant dollars (1935-39=100) between 1951 and 1964. Total expenditures on fertilizer between the periods 1951-54 and 1962-64 increased by 84 per cent. The most significant increases took place in Saskatchewan, Alberta and British Columbia. In Alberta the fertilizer input in real terms rose by 340 per cent, in Saskatchewan by 146 per cent, and in British Columbia by 105 per cent. The lowest increases occurred in the Maritime Provinces. Fertilizer input increased by only two per cent in New Brunswick, eight per cent in Nova Scotia and 21 per cent in

Table 27: Fertilizer Expenditures by Provinces, 1951-1964

Province	1951-54	1955-58	1959-61	1962-64	% Increase 1951-64
(Thousands of Constant 1935-39 Dollars)					
Canada	29,075	31,111	38,955	53,544	84
Prince Edward Is.	1,390	1,650	1,648	1,686	21
Nova Scotia	1,023	924	967	1,100	8
New Brunswick	2,200	2,085	2,182	2,237	2
Quebec	4,426	5,054	6,872	8,136	84
Ontario	13,600	15,755	18,242	24,099	77
Manitoba	1,597	976	1,506	2,450	43
Saskatchewan	1,839	1,249	2,052	4,518	146
Alberta	1,955	2,051	4,230	8,596	340
British Columbia	1,337	1,577	2,029	2,536	105

Source: Computed from farm income data in Q.B.A.S., various numbers.

Prince Edward Island. This is likely due to the declining area of improved farm land, and particularly in such heavy fertilizer-using crops as potatoes.

Livestock.--The number of milk cows changed little over the period 1951 to 1964. A slight downward trend is evident in the Maritime Provinces, Manitoba and Saskatchewan, offset by a small upward trend in Quebec and British Columbia. Cattle other than milk cows show a definite increase in Canada. From just over five million head in 1951, the number increased to over nine million head in 1964. The most significant increase took place in the Prairie Provinces where the number more than doubled since 1951. However, upward trends are also shown in the other provinces. The number of hogs,

although fluctuating cyclically, has been fairly constant since 1951. This has been true for all provinces.

The total number of sheep in Canada has also changed very little since 1951; however, there is a definite upward trend in Western Canada, with the opposite trend in Eastern Canada.

Drummond and MacKenzie concluded that in the period 1929-1955 there was a net increase in productivity of improved land of about 22 per cent. This has come about in three ways:

- (i) increase in crop yield per acre;
- (ii) increase in the production of livestock and livestock products;
- (iii) change in certain regions toward products of higher value, such as tobacco and sugarbeets.

Observing the available data on yields per acre, it was concluded that increases in yields per acre varied widely for the different agricultural products.

Grain yields in Canada, which largely reflect those of the Prairie Provinces, showed no clear trend to increase or decrease over the period 1911-1955. This may be explained by the fact that in the early years native fertility of the virgin soils contributed to fairly high yields. The effects of better seed, better practices and more fertilizer apparently kept yields from falling rather than bringing about yield increases. However, there was evidence that yields in the Prairie Provinces could, as of the mid-1950's, be increased by as much as 30 per cent by the increased use of fertilizer.<sup>1</sup> Grain yields in Eastern Canada increased noticeably in the period 1935-55. Drummond and MacKenzie estimated the increase at 20 per cent for oats, and 13 per cent for barley in Ontario. In Quebec these increases were estimated

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<sup>1</sup> Drummond and MacKenzie, op. cit., p. 83.

at ten per cent and four per cent for oats and barley respectively; for the Maritimes the yield increase was found to be slightly over 20 per cent for both crops.

The average yield per acre for the major grains in Canada for the periods 1926-1955 and 1956-1964 are presented below:

Crop	1926-1955	1956-1964
	( b u .      p e r      a c r e )	
Wheat	16.6	20.0
Oats	30.6	40.7
Barley	23.8	28.2
Rye	13.2	16.5

Source: D.B.S. Handbook of Agricultural Statistics  
and Quarterly Bulletin of Agricultural Statistics.

The above data suggest increased yields for the four major grains. Yields fluctuate widely from year to year and the apparent increase in yields may be due to accidental factors such as better average weather conditions during the past nine years.<sup>1</sup>

It should be realized, however, that even though the grain yields (other factors removed) may not have increased significantly, the general quality of feed grains has improved, i.e., higher nutritive value. In real terms, therefore, more feed is being produced independently of yield.

The average yield of tame hay has not increased significantly. The average yield rose from 1.64 tons per acre in the period 1926-55 to 1.74 tons

<sup>1</sup>D. Gale Johnson and Robert L. Gustafson in Grain Yields and the American Food Supply, present evidence that much of the variation in average grain yields in several five-year periods was caused by variation in weather conditions, whereas in other periods changes in yield were apparently caused by non-weather factors (pp. 15-57).



per acre in the period 1956-64. Moreover, the yields varied relatively little from year to year. Even though no apparent changes in yield have taken place, the nutritive value of hay has increased due to improved seed mixtures and to improvement in hay-making and storage.

The average potato yield has increased considerably; from an average yield of 90.8 cwt. in the period 1926-55 to 143.6 cwt. per acre in the period 1956-64. "Knowledge about fertilizer on the potato crop and the use of dusts and sprays to control insect diseases, along with attention to disease-resistant varieties, have produced these results."<sup>1</sup> The annual data on yield shows that the upward trend in yield started after World War II. Much of the increased yield perhaps is associated with the sharp decline in acreage--leaving the reduced acreage on the best land.

In summary, it can be concluded that with the important structural changes which have taken place in crop production, yields of most of the crops, with the exception of potatoes and other more "intensive" crops, have not increased significantly.

Drummond and MacKenzie found an increase of about 24 per cent in output per hog carried on farms in the 16 years, 1935-39 to 1955, and of about 26 per cent for beef.<sup>2</sup> In the present research, it has been impossible to secure fully comparable data. However, it is possible to show that both beef and hog production has expanded more quickly than cattle and hog numbers. Thus from 1951-53 through 1961-63 we find the following percentage increases:

All cattle	33
Other cattle	50

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<sup>1</sup> Drummond and Mackenzie, op. cit., p. 84.

<sup>2</sup> Ibid., pp. 88-89.

Hogs	8
Beef and veal production	52
Hog production	8

Thus, as a rough and general guide, we find that productivity in beef production has continued--and at a somewhat slower rate than in the period considered by Drummond and MacKenzie. There is, however, on the basis of these data no improvement in productivity in hog production.

Hood and Scott estimated deflated (1949 dollars) gross domestic product per man hour in Canadian agriculture over the period 1926-1955 and found that productivity measured in dollars per man hour rose from .58 to .99 over the years 1946-1955.<sup>1</sup> This is surely a good measure of the sweeping structural changes in Canadian agriculture over these years. We have attempted an extension of this measure, although the result must necessarily be rough since data on hours of work per week or per man-year are not available. (We have arbitrarily estimated that farm labour works 55 hours per week, 50 weeks per year.) Tying the two series together gives the following result:

1953	\$ .98	1960	\$ .91
1954	.76	1961	.82
1955	.99	1962	1.13
(Hood and Scott)		1963	1.30
		1964	1.25

The data suggest that the gains in productivity in recent years have continued, but at a slower rate than in the previous decade.

A generally comparable measure for the United States is provided by

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<sup>1</sup> Output, Labour and Capital in the Canadian Economy, Royal Commission on Canada's Economic Prospects, Ottawa, 1955, Ch. V, Appendix F.

the index of farm output per man hour. Over the same years, the American data are as follows: (1957-59 = 100)

1953	71	1958	103
1954	74	1959	106
1955	80	1960	115
1956	86	1961	120
1957	91	1962	127

Over the nine-year period the increase in productivity was about 80 per cent. It will be observed that the indicated Canadian productivity increase is far less over corresponding years. While we must consider data limitations, there may well be very disturbing real implications in the data reported above, implications suggesting that the comparative advantage position of Canadian agriculture may have been deteriorating over the past ten to 15 years. Why might this occur? (1) The product mix in American agriculture likely changed so as to yield greater productivity gains (Actually the product mix of Canadian agriculture has been relatively stable.); (2) the changing factor mix in American agriculture, with more emphasis on specialized capital inputs, may have contributed to the result; (3) regional shifts in American agriculture, especially the continuing rationalization of Southern agriculture, may have been a factor; and (4) structural changes which defy accurate comparison, e.g., the more rapid increase in scale of the large, highly-capitalized farms in the United States may have favoured that country. This is suggested by the Grilliches analysis (op. cit.). Chapter III of this study suggests that Canada has been falling behind in a relative sense in productivity in livestock production. We may note here one reflection of the difference in farm structure of the two countries. This is in the output per acre. In the United States cash receipts per acre of crop land or of improved land run three to four times as great as in Canada,

depending on the variables considered.

This chapter began with reference to the 1958 Farm Survey Report (D.B.S.) and will end on the same theme. This work for the first time places in an objective context the incomes received by Canadian farm families. Prior to the release of that report, it was often presumed that the total income of all but the largest size groups of farms was distressingly small--generally being identified as net incomes from farming operations. Table 29 provides data on farm and non-farm incomes per farm family by size groups by regions. The data bring out very clearly the importance of non-farm incomes on small farms--those say with sales of farm products less than \$2,500 per year. This includes more than 40 per cent of Canadian farms as defined by the Census. The economic activities of the farm families on these small farms is clearly very largely outside agriculture.

Table 28: Income Earned by Farm Families From Farming Sources and Off-Farm Sources, Dollars per Farm Family, 1958

	Value of Agricultural Products Sold					Total or Average
	Less Than 1,200	1,200- 2,499	2,500- 4,999	5,000- 9,999	10,000 and Over	
<u>Maritimes</u>						
Net farm	358	985	1,408	2,596	4,163	1,026
Off-farm	1,780	1,341	903	931	1,026	1,319
Total	2,138	2,326	2,311	3,527	5,189	2,345
<u>Quebec</u>						
Net farm	422	1,153	2,009	3,378	5,320	1,802
Off-farm	1,996	1,405	904	972	1,140	1,317
Total	2,418	2,558	2,913	4,350	6,460	3,119
<u>Ontario</u>						
Net farm	156	820	2,044	3,799	6,743	2,532
Off-farm	2,882	1,862	1,531	1,261	1,450	1,764
Total	3,038	2,682	3,575	5,060	8,193	4,296
<u>Prairies</u>						
Net farm	477	1,357	2,300	4,076	8,909	2,816
Off-farm	1,428	887	627	698	1,177	899
Total	1,905	2,244	2,927	4,774	10,086	3,715
<u>British Columbia</u>						
Net farm	97	917	2,378	3,758	10,100	2,017
Off-farm	2,833	2,007	1,371	1,096	1,888	458
Total	2,930	2,924	3,749	4,854	11,988	4,175
<u>Canada</u>						
Net farm	349	1,155	2,133	3,787	7,549	2,344
Off-farm	2,068	1,290	954	938	1,298	1,301
Total	2,417	2,445	3,087	4,725	8,847	3,645

## VII. COMPARATIVE ADVANTAGE AND TRADE POLICY

Attention is drawn to the fact that Chapter III developed conclusions respecting comparative advantage of Canadian agriculture based on a commodity by commodity analysis. The following is concerned with the same subject but the conclusions rest largely on the work of Chapters IV and VI.

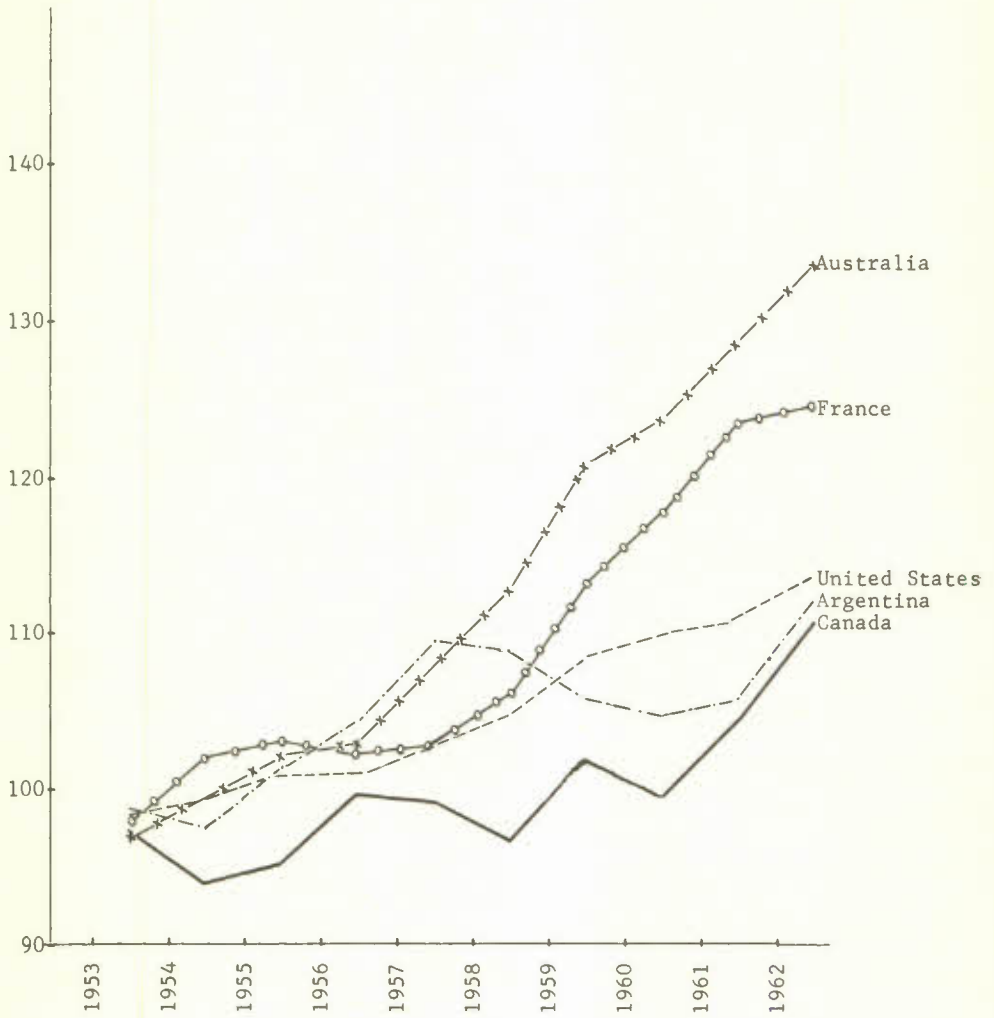
A good summary of farm output in major countries, reflecting comparative advantage plus the distortions to comparative advantage due to barriers and restraints, is presented in Figure 3. This figure is based on a three year moving average.

A very high degree of protectionism characterizes the farm industry of all major West European countries and the United States. Figure 3 demonstrates rapid increases of the volume and output in France and in Australia. These two countries represent policy extremes. In the guided economy of France, agriculture is highly protected while protectionism is perhaps least important in Australia. Agricultural output has been artificially stimulated in France, whereas largely natural and economic forces have resulted in a rapid increase in agricultural production in Australia. It is interesting that the rate of growth of output in Canada has been slower than in any of the five countries. In some senses this reveals a lack of comparative advantage. In another it suggests that Canada has faced the realities of adjusting her agriculture toward meeting domestic requirements, and away from the instability which characterizes an economy dependent very largely on agricultural exports.

The objective of the intervention is for income improvement. However, as noted earlier, a rather general consequence of price-raising policies is that the short-run income gains may be capitalized into land values, and thus in the long run be lost or become costs. Further, intervention by government



Figure 3: Physical Volume of  
Agricultural Production  
(1952-53 to 1956-57 = 100)



distorts resource use: in the case of France grain production was made more attractive than grain conversion, and in 1965, for the first time in modern history, France imported meat for domestic consumption. It is interesting that high grain prices may adversely affect the French position in the world market. China had been the best customer for French wheat in 1963 and 1964, but its total purchases went to other countries in 1965, because of lower prices offered by them.

Price supports, subsidies and trade restraints impose a heavy burden on the non-agricultural sector of an economy. As long as prosperity prevails, society is usually prepared to accept the implications of such a situation. In case of a recession, however, it may not be maintained. Under such circumstances, public clamour against farm aids may result in relief to consumers--all or in part at the cost of the farm sector. Even in the EEC countries, bread is still an important component of diets.

The connection between Common Market food prices and agricultural import policy is well demonstrated by last year's (1963-64) shortage of pork and beef. To ward off rising meat prices, France, Belgium and the Netherlands lowered import levies or eased import regulations. The result was that U.S. exports to the Common Market of pork increased seven-fold and that prices went back to normal.<sup>1</sup>

Agricultural protectionism in Britain is not as extreme as in the EEC countries. Britain has by no means aimed at the level of self-sufficiency implied in the Common Agricultural Policy. This policy appears to have the goal of trade diversion; i.e., the substitution of a higher cost Community supplies for those from outside the EEC. These diversions lead to a worsening of the terms of trade of the outsiders vis-a-vis the insiders.<sup>2</sup>

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<sup>1</sup> Report on Western Europe, The Chase Manhattan Bank, No. 30, New York, 1964, p. 3.

<sup>2</sup> E. Thorbecke, "Problems of Regional Integration, European Economic Integration and the Pattern of World Trade," American Economic Review, Vol. 53, Part 2, 1963, p. 148.

Summarizing, restraints on trade account for much of the pattern of structural changes in importing countries. This tends to distort the comparative advantage for most farm products. Canada's high quality wheat is to some extent an exception. Due to its baking quality, this product continues to hold a strong place in some of the major recipient countries, e.g., Britain, EEC and Japan. Both in Britain and Japan, there is little or no tendency to substitute this product. On the other hand, even in the EEC countries the demand for Canadian wheat sets obstacles to attempts to reduce imports of high quality wheat.

As indicated in Chapter III, Canadian agriculture still has comparative advantage in certain products, most clearly in hard wheat. For these, Canadian exports would expand if restraints on trade were removed. However, this work suggests that in general terms, Canada may have lagged so far as the adoption of farm organization and farm practices consistent with the rapid improvement in efficiency is concerned. There is need not only for vast improvement in the internal organization and operation of Canadian farms, but also in product and factor markets. The apparent lag in productivity of Canadian agriculture as against that of the United States requires further research. The relation of the agriculture of that country, at once our largest market and strongest competitor, to Canadian agriculture is critically important.

## APPENDIX A

### AGRICULTURAL TRADE RESTRAINTS IN INDIVIDUAL COUNTRIES

Britain.--In the post-war period Britain supported her farm industry largely by a deficiency payments scheme. Current agricultural production reflects guaranteed prices for wheat and barley; guaranteed prices for milk, hogs, beef and other livestock products are consistent with feed grain prices. In addition to price guarantees other aids are granted to the farm industry, the costs and distribution of which are presented in the following table:

#### Total Estimated Cost of Agricultural Support, United Kingdom

Item	Year	£	\$
Actual cost	1962-63	321.3	960.7
Actual cost	1963-64	293.9	878.8
Forecast	1964-65	269.7	806.4
Estimate	1965-66	294.5	880.6

#### Tentative distribution of above costs:

Deficiency payments for cereals, potatoes, and conversion products	62%
Structural improvements (drainage, irrigation, etc.) . . . . .	21%
Direct aid (fertilizer subsidies). . . . .	14%
Administration cost. . . . .	3%

Sources: Annual Review and Determination of Guarantees 1962, London, March 1963, p. 18; and Agra Europe, March 25, 1964, p. EN/2.

The four principal grain suppliers (Canada, Argentina, Australia, and the United States) have agreed to maintain minimum prices on offers of cereals to Britain.<sup>1</sup> France and other supplying countries have joined the agreement. All these countries are exempt from any general levy which may be imposed on imports offered below the minimum import price.

Japan.--Insofar as wheat, flour, and barley for food are concerned, Japan is essentially a state trader. Imports of these commodities are subject to fixed semi-annual global quantitative quotas and individual semi-annual foreign exchange quotas. Within these quotas the government food agency decides when wheat, flour, or food barley is to be imported, how much, and from which countries, but the importing is done by registered private traders on behalf of the agency. The traders are awarded import licenses on a bid basis, the bids being the prices at which the traders offer to sell the imported commodity to the agency. The licenses are usually issued to the lowest bidders, and the agency resells the imported commodity in Japan.

Japan's import duty of 20 per cent is at present suspended. But imports are resold at prices higher than purchase prices. The present skimming charges range from 33 to 55 cents per bushel, according to class of wheat, and average about 45 cents per bushel. The resulting profit is used to offset costs of farm support programmes.

Japan buys large amounts of wheat for feed, which is also handled through the agency. The reason for this is related to the two types of mills found in Japan. There are many small mills, which are not capable of making high extraction flour. There are also a number of very modern flour mills. The government accepts an obligation to the small mills, and about 50 per

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<sup>1</sup>W.M. Miner, "New Cereals Arrangements in Operation," Agriculture Abroad, Canada Department of Agriculture, Vol. XIX, No. 3, 1964, p. 4.

cent of the imported feed wheat is sold to these small mills which produce mainly feeds.

Japan is not a state trader in imported feed grains other than wheat. Private traders sell such imported grains directly to Japanese processors and other private buyers. However, feed barley is an exception. Barley is purchased by the food agency in the same way as wheat. Corn imports are not subject to foreign exchange quotas.

Domestic grain policies involve government purchases of unlimited quantities, resale of purchased grain at lower prices and attempts to decrease barley acreage. The present arrangement (government purchase and resale at a lower price) involves losses of about \$0.80 per bushel for wheat, \$0.55 per bushel for barley, and \$1.00 per bushel for hull-less barley.

European Economic Community.--From July 1, 1967 a common market for grain having all the characteristics of a domestic market is projected. On imports of the various cereals from third countries, a single levy will be imposed. Intra-Community trade in cereals will be free from levies. Refunds or subsidies on intra-Community export trade will be eliminated; for exports, the amount of the subsidy will be unified.

The application of the full levies based on the level of agreed common prices for barley and corn would increase the cost of imports of these grains appreciably. Taking this into account, the Ministers agreed that the levy on barley and corn imported by sea into Italy from third countries may be reduced by \$7.50 per metric ton until the end of the 1971-72 marketing year. A special provision is also made for durum wheat. This assures producers a price higher than would be obtained on the basis of the agreed target price of \$125.00 per ton.



Compensatory Payments.--In order to compensate farmers in Germany, Italy and Luxemburg for reductions in income incurred as a result of the move to a common price, subsidies will be granted to them directly during the years 1967 to 1970. Compensation can take the form of a contribution toward the improvement of welfare benefits, grants for improving productivity, structural reform and rationalization of agriculture. Under no circumstance may the payments be tied to any product.

The Community contribution to the compensatory payments is to be as follows:

<u>Country</u>	<u>1967-68</u>	<u>1968-69</u>	<u>1969-70</u>
	( \$ U. S.   m i l l i o n )		
Germany	140.0	93.5	46.8
Italy	65.0	44.0	22.0
Luxemburg	1.25	0.75	0.50

Beef and Veal.--Customs duties will be the main instrument of protection against competition from non-member countries but a system of import levies will also operate in respect of some products under certain conditions. The Commission will at regular intervals fix import prices for calves. The common external tariff rates (16 per cent on live animals and 20 per cent on meat) will apply from January 1, 1970 on imports from third countries. During the transitional period national rates will be aligned gradually in annual stages starting this year and reaching the single rate by the end of 1969.

As in the other sectors, the regulation prohibits the application of national restrictive measures such as quotas, minimum prices, and special taxes on imports, although exception is made for an existing protocol concerning Luxembourg.

Milk and Milk Products.---The following products are covered by the common market provisions: milk and cream, fresh, preserved, concentrated or sweetened; butter, cheese and curds; lactose and lactose syrup and certain other preparations. It will not, however, cover fluid milk although this sector will naturally be affected by the provisions concerning other dairy products.

National restrictive measures are prohibited, and no customs duties are to be applied except in the case of certain items bound under the GATT. Instead, imports from third countries will be controlled by a system of target prices and levies comparable to those applied under the cereals regulation. The levy applicable to third countries will be the difference between the most favourable third-country offer prices and the threshold price in the importing member country.

For Cheddar, Emmenthal, Gruyere, Sbrinz and Glaris cheeses imported from non-member countries, the amount of the levy will be equal to that which would result from the application of the rate bound in the GATT as long as the conditions of the binding are respected. For Cheddar the tariff rate in the common external tariff is 23 per cent.

Dairy subsidies constitute the bulk of direct subsidies granted to agriculture. For the six member states, total payments in the dairy sector in 1963 amounted to about DM 2,017 million, or a little more than \$500 million.<sup>1</sup> It has been agreed, however, that member states may not introduce new subsidies or increase existing ones.

A system of support for butter prices has been established. During the transitional period, member states will determine annually an intervention or support price for prime quality fresh butter, and the intervention agencies will buy any quantity of the butter offered to them.

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<sup>1</sup>J. MacNaught, "EEC--Regulations for Dairy Products," Agriculture Abroad, Vol. XX, No. 1, 1965, p. 45.

With regard to imports from third countries, the free-at-frontier price, or c.i.f. price for the products concerned is determined on the basis of the lowest prices on the international market. The free-at-frontier prices for imports from member states are calculated differently. In this case, it is a price ex-factory in the exporting country. Because some member states continue to impose certain taxes on importation, import levies are reduced by this amount.

The Regulation provides for granting of refunds on exports to third countries to price exports on the basis of quotations ruling in international trade. As in the case of the other EEC marketing arrangements, the Dairy Regulation authorizes safeguard measures should imports cause or threaten serious disruption of the market of one or more member states.

The removal of obstacles to trade within the Community is expected to lead to an expansion of trade between member states. A preference over outside suppliers is accorded domestic producers and fear has been expressed that this will result in a reduction in third countries' share of the market.

Fats and Oils.--For oilseeds and oleaginous fruit the tariff rate is free.

Fruits and Vegetables.--While imports from third countries must comply with EEC quality standards (or at least their equivalents) exceptions are currently operative for products from certain countries. Duties on imports from third countries are maintained and are to be brought into line with the Common External Tariff in accordance with the treaty. The Commission proposes the removal of all quantitative restrictions and measures with equivalent effect on trade with third countries with effect from January 1, 1966. But if imports from third countries take place below specified reference prices, threatening serious disruption of Community markets, the Commission may

decide to suspend these importations, or alternatively impose a countervailing charge.

General.--The following is a statement made by the Assistant Secretary of Agriculture of the United States, "Europe's farmers not only want continued high prices for what they produce but they also hope under the Common Market to expand their production. If proposed policies went fully into effect, in a few years we might find it especially difficult to sell our grains and poultry to the area. Conceivably a wide range of our export products could be seriously affected including wheat, feed grains, rice, tobacco, animal products, fats and oils, poultry, and certain fruits."

The same official goes on, "In the case of our fruit and vegetable products, for example, the Common Market countries propose fixed tariff rates but continue to apply quantitative restrictions. If these quantitative restrictions were removed--as they certainly should be since these countries no longer have balance of payments problems--our exports of these items would increase substantially." While Canadians would agree the position taken in the foregoing statement, they would also insist that it apply equally to the United States which has a wide range of highly restrictive quantitative limitations on imports on farm products.

J.D. Coppock has suggested more intensified production control in the United States and Canada in order to reduce their exports to the European Economic Community.<sup>1</sup> At the same time, he has recommended that the average threshold price for wheat to the European Economic Community should be fixed

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<sup>1</sup> J.D. Coppock, North Atlantic Policy, the Agricultural Gap, New York, Twentieth Century Fund, 1963.

at \$75 U.S. per metric ton, including tariffs. This price, of course, is much less than the average price established by the Commission. He has calculated that whereas his proposal implies 15 to 30 per cent price reductions in Germany and Italy, it might cause five and 30 per cent price reductions in Canada and the United States respectively. On the other hand, the soft wheat price would be increased by eight per cent in France. The general price adjustments recommended by Coppock imply that each major country sacrifice in order to maintain harmony in world trade relations.

The Pisani-Baumgartner Plan of the French government is based on the assumption that current world market prices have been unduly low due to high subsidies paid to farmers in both North American exporting countries. The plan suggests that world market prices should undergo an upward adjustment to the level of EEC target prices. Concurrently export subsidies as well as import levies would be abolished. The result would be higher returns for smaller quantities sold. Excess receipts could be used to finance food aid programmes to developing nations. The plan recognizes that improved supply management and new outlets will be needed. With regard to the former, countries like Canada, Australia and Argentina, in return for the higher export prices, would commit themselves not to pass the higher prices down to producers, thus eliminating the incentive to increase production. This could be established by means of export taxes. Countries such as the United States, which already have high prices, would have to tighten their supply controls even further. It is evident that the dominant goal of the plan is to pave the way for expanding French agricultural exports. This might include sales within the Community as well as exports to non-members.

The Mansholt Plan was accepted in November 1963 by the Commission. It proposed that the average common target price for wheat should be set at

425 Deutsche marks (\$106.30) per metric ton (wholesale level). Since prices for coarse grains are related to wheat prices, the prices of livestock and livestock products would likewise be affected by the regulation. The Commission has computed the potential losses for the countries involved in adopting the Plan. It is shown that West German agriculture would face an annual decrease equivalent to 140 million U.S. dollars in total agricultural income; Italy 65 million, and Luxembourg \$900,000. The Commission has presented a series of suggestions which might help to compensate for these losses. These include direct payments to farm operators, augmentation of social contributions to farm families, and aid to production by improvement measures and other means.

Some of the special problems of individual EEC countries as they face transition into the CAP are considered in Chapter V, which considers structural changes in agriculture in these countries.

#### United States Support Programmes

The Commodity Credit Corporation supports prices of most storable commodities mainly by loans to producers at the support price on any eligible quantity sealed in approved storage, using the commodity as collateral. The farmer has the option of redeeming the loan when the open market price exceeds the support price. Prices of most perishable and some semi-perishable commodities are generally supported by means of outright purchases by the CCC.

Various programmes are used by the United States to promote exports of agricultural products. Of the \$6,074 million of U.S. agricultural exports in fiscal 1963-64, 38 per cent were under export assistance.<sup>1</sup> Payments are made

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<sup>1</sup> E. Jaska, "U.S. Farm Income and Support Programs," Agriculture Abroad, XX, No. 3, Canada Department of Agriculture, pp. 40-46.



when specified price-supported commodities will not move in international trade without some form of compensation to the exporter who buys at the domestic price and sells in foreign markets at the lower world price. In 1963-64, export payments of \$822 million were made on behalf of exports of wheat and flour, cotton, milled rice, dairy products, tobacco, oilseeds and products, and peanuts.

The average export payment during fiscal 1963-64 was 55 cents per bushel on wheat and 74 cents per bushel on the wheat equivalent of flour. Total export payments on wheat and flour amounted to \$427 million.

All rice exports were made with the assistance of export payments in kind or in cash. The average export payment was \$2.28 per hundredweight and such payments totalled \$71.7 million during the year.

Export payments for dairy products included payments in kind and meeting differentials between the domestic market price and CCC sales price on sales from CCC stocks; special sales at concessional prices are made to Japan and Italy. These payments for non-fat dry milk averaged 8.2 cents per pound. The payments averaged 34 cents per pound for butter and 42 cents per pound for butter oil. Estimated export payments totalled \$35.0 million for butter and \$5.4 million for butter oil. The average export payment for cheese, including differentials on sales for export and concessional sales to Italy, was 16 cents per pound; the estimated total export payment was \$0.8 million.

Only 31.1 million pounds, less than six per cent of the 532 million pounds of unmanufactured tobacco exported from the United States during fiscal 1963-64 was exported under the assistance programme. The average export payment was 9.3 cents per pound.

The average export payment was six cents per bushel of flaxseed. Estimated total export payments amounted to \$0.2 million.

P.L. 480.--In addition to these arrangements for sales through so-called commercial channels, there are two important programmes for moving agricultural commodities under special arrangements. The Mutual Security Act of 1954, Section 402, provides for financing exports of surplus agricultural commodities paid for in foreign currencies, and the Agricultural Trade Development and Assistance Act (Public Law 480), also of 1954, provides for four types of programmes: Title I covers sales for foreign currencies or in exchange for long-term loans; Title II covers famine and relief; Title III includes domestic donations; and Title IV, long-term credit sales.

Benefits of Support Programmes.--A group of economists concluded that, if price supports and acreage diversion programmes for feed grains and wheat were discontinued, after a three-year period of adjustment to market prices, even though surplus stocks increased somewhat, net farm income would drop \$5 billion to \$6 billion. This study assumed the continuation of the cotton, rice, peanut, dairy and tobacco price support programmes. If these programmes also had been discontinued, the decline in net farm income projected would have been even greater--more than \$6 billion or more than 50 per cent.<sup>1</sup>

#### Argentina<sup>2</sup>

Preferential financial treatment is given to farmers in the form of loans for mechanization and other improved methods, in addition to assistance provided in connection with seeding, harvesting and marketing of farm products. The National Bank is the major credit institution, making loans to producers for these purposes.

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<sup>1</sup>Luther G. Tweeten, Earl O. Heady and Leo V. Mayer, Farm Program Alternatives; Farm Incomes and Public Costs under Alternative Commodity Programs for Feed Grains and Wheat, Ames: Center for Agricultural and Economic Development, Iowa State University, May 1963 (CAED Rept. 18).

<sup>2</sup>Source: F.A.O. National Grain Policies, Rome, 1963, pp. 123-125.

Support prices in Argentina are fixed at levels that are regarded by the Government to be incentives. As a rule the incentive is strongest in the case of flax.

The last few years, the Government has laid special emphasis on increasing wheat output. The 1964-65 minimum support price was \$1.35 per bushel Canadian, and with sales in Western Europe bringing about \$1.90 and handling and ocean freight estimated at 30 to 35 cents per bushel, the National grain Board earns surplus of about 25 cents per bushel. This is used mainly for support of such organizations as the National Institute of Technology. The minimum support on barley in the same year was about a little over 80 Canadian cents per bushel; and for corn just over \$1.00 (Canadian). Import duties averaging 200 per cent ad valorem on all grain imports effectively prevent these.

#### Australia

The Australian Wheat Board is responsible for the handling of the Stabilization Plan. The Plan guarantees to growers a return based on a cost index of the wheat industry. The guarantee applies to domestic consumption and to part of the exports. An important change occurred when the Government increased its guarantees on exports from 100 to 150 million bushels for each crop, beginning 1962. Increased efficiency has resulted in higher yields per acre and a consequent decrease in unit production costs. Since the guarantee related to production costs, guaranteed price for 1963-64 has been set below that of the previous year.

To finance the Plan a tax is collected on wheat exported in excess of the guaranteed export support quota. The maximum tax is equivalent to (U.S.\$) 6.20 per metric ton. No production control is practised. Some freight

Wheat Prices (f.a.q., bulk)  
U.S.\$ per metric tons

Year	Guaranteed Price	Home Consumption Price	Average Export Return
1961-62	64.81	65.15	58.97
1962-63	65.15	65.73	55.56 (estimated)
1963-64	59.34	60.00	

Source: F.A.O. National Grain Policies, 1964, p. 198.

subsidy is granted to West Australia growers in the amount of (U.S.\$) 1.05 per metric ton.<sup>1</sup>

The Australian Meat Board has the power to encourage, assist and promote the export of meat from Australia. A special clause enables the Board to purchase and sell meat for export and thus ensure that the Government will be able to meet special international commitments. Finance for the Board's operations is derived from a levy payable on the slaughter of cattle, (over 200 lb. dressed weight), sheep and lambs for human consumption. The maximum rate at which the levy can be applied has been fixed at 90 cents (Canadian) a head for cattle and nine cents (Canadian) a head for sheep and lambs.

Australia has a 15-year meat agreement with Britain which expires in 1967. The agreement includes guaranteed minimum prices and unrestricted entry to the British market for most of the meat products.<sup>2</sup>

<sup>1</sup>See F.A.O. National Grain Policies, 1963 and 1964.

<sup>2</sup>D.T. Campbell, Agriculture Abroad, Vol. XX, No. 1, February 1965, Ottawa: Department of Agriculture, pp. 1-4.

## APPENDIX B

Appendix Table I: EEC: Rate of Self-Sufficiency, 1963-64 (Production at Percentage of Domestic Consumption)

Product	Fed. Rep. Germany	France	Italy	Nether- land	Belgium & Luxemburg	EEC
Wheat	70	113	93	32	69	91
Other grains	77	106	72	35	43	77
Sub total: grains	73	110	84	34	52	83
Rice	--	56	146	--	--	83
Potatoes	98	101	103	115	100	100
Sugar	93	116	97	107	119	103
Vegetables	75	97	117	155	102	105
Fruit (fresh)	73	77	128	122	79	96
Grape fruit	--	--	178	--	--	41
Wine	61	78	99	2	16	86
Beef and veal	87	102	74	105	95	93
Pig meat	94	100	94	154	101	100
Poultry meat	57	101	93	336	102	93
Other meat	82	94	86	92	77	89
Sub total: meat	88	100	83	131	95	95
Eggs	57	97	81	229	114	90
Milk (cow, goat, sheep)	100	100	100	101	100	100
Cheese	78	103	99	209	33	99
Butter	94	102	84	192	97	101
Fats and oils (exc. butter)	32	39	69	23	39	44

Source: G. Thiede, "Statistische Variationen uber das Thema Versorgungslage," Agri Forum, Vol. 1, No. 4 (April 1964), Munich, Germany.

Appendix Table II: Area, Yield and Output by Countries

Commodity and Country	Area '000 hectare		Yield 100 kg / hectare		Production 1,000 metric tons	
	1948/49- 1952-53	1962-63	1963-64	1948/49- 1952-53	1962-63	1963-64
<u>Wheat</u>						
France	4,264	4,570	3,850	18.3	7,791	14,054
Canada	10,507	10,852	11,155	12.8	13,443	15,392
United States	27,756	17,620	18,295	11.2	31,066	29,765
Argentina	4,487	3,438	5,406	11.5	5,175	5,020
Australia	4,620	6,664	6,667	11.2	5,161	8,353
World total	169,800	207,900	208,200	10.1	171,200	262,900
<u>Barley</u>						
France	954	2,176	2,538	16.1	1,534	6,003
Canada	2,845	2,140	2,493	14.9	4,245	3,612
United States	4,095	5,030	4,681	14.3	5,843	9,502
Australia	455	820	815	11.7	531	898
World total	52,000	64,900	71,400	11.4	59,100	100,100
<u>Oats</u>						
France	2,355	1,356	1,287	14.4	3,393	2,628
Canada	4,623	4,286	3,940	13.7	6,328	7,612
United States	15,266	9,176	8,775	12.4	18,970	14,811
Australia	842	1,332	1,373	6.6	560	1,248
World total	53,700	35,000	33,100	11.6	62,200	50,900
<u>Corn</u>						
France	332	869	955	13.6	452	1,867
Italy	1,253	1,120	1,120	18.4	2,306	3,261
Yugoslavia	2,294	2,460	2,410	13.4	3,078	5,270
United States	29,856	22,909	24,503	24.9	74,308	92,375
Argentina	1,696	2,645	2,925	14.2	2,509	4,360
World total	87,600	106,700	104,800	15.8	138,200	219,000



Appendix Table II--continued

Commodity and Country	Area '000 hectare		Yield 100 kg / hectare		Production 1,000 metric tons		
	1948/49- 1952/53	1962-63	1962-63	1963-64	1948/49- 1952/53	1962-63	1963-64
<u>Potatoes</u>							
France	1,124	862	122	155	13,738	13,389	15,974
W. Germany	1,149	962	211	261	24,254	25,091	25,800
Poland	2,571	2,910	115	130	29,642	37,817	44,868
Canada	142	118	127	180	1,807	2,127	2,088
United States	662	557	161	217	10,676	12,097	12,325
World total	22,800	24,700	107	107	243,600	263,800	276,500
<u>Flaxseed</u>							
France	44	60	3.4	8.4	15	51	53
Poland	96	131	5.8	5.0	64	65	61
Canada	414	585	5.8	7.0	238	407	536
United States	1,773	1,136	5.8	7.2	1,029	819	791
Argentina	799	1,315	6.4	6.4	513	818	839
Uruguay	185	160	5.7	5.3	106	84	62
India	1,438	1,899	2.7	2.3	384	433	385
World total	7,600	7,800	4.1	4.5	3,100	3,500	3,400
<u>Rapeseed</u>							
France	120	89	12.8	17.8	154	159	135
W. Germany	54	48	15.4	21.4	83	115	96
Poland	133	250	7.5	14.4	100	361	227
Canada	10	150	9.3	8.8	9	133	190
India	2,077	3,108	4.0	4.2	823	1,294	909
Japan	114	173	11.3	14.3	129	247	109
World total	5,100	7,700	5.5	5.5	2,800	4,200	3,400
<u>Tobacco</u>							
France	29	22	17.2	18.2	49.1	39.4	40.6
Greece	84	124	5.8	7.5	49.1	93.1	125.6
Canada	43	53	14.4	17.4	61.7	92.1	91.2
United States	674	495	14.2	21.2	958.4	1,049.8	1,062.9

Appendix Table II--continued

Commodity and Country	Area '000 hectare		Yield 100 kg / hectare		Production 1,000 metric tons	
	1948/49- 1952/53	1962-63	1963-64	1948/49- 1952-53	1962-63	1963-64
<u>Tobacco</u>						
Brazil	149	232	250	7.6	8.3	206.8
India	331	421	416	7.5	8.8	366.8
Pakistan	69	89	89	9.9	11.5	101.7
World total	2,940	3,420	3,660	9.6	11.3	4,180
				2,830	3,860	

Appendix Table III: Numbers of Tractors and Combines Used in Agriculture by Countries

Country	T R A C T O R S				H A R V E S T E R - T H R E S H E R S							
	1949-52	1961	1962	1963	1955	1956	1957	1958	1959	1960	1961	1962
France	148,142	743,400	804,400	867,676								
W. Germany	165,144	938,002	999,218	1,053,166								
Italy	63,702	272,849	304,893	338,584								
Netherlands	22,965	88,916	95,884	104,090								
U.K.	325,260	386,730	371,790	--								
Canada	399,686	543,789	--	--								
U.S.	3,659,500	4,482,000	4,460,000	4,657,000								
Argentina	50,029	110,643	--	--								
Japan	--	6,978	10,756	--								
Australia	132,212	264,069	270,566	283,748								
France	17,738	24,100	30,200	37,900								
W. Germany	8,598	12,898	21,000	29,000								
Italy	616	--	1,850	2,616								
Netherlands	1,906	--	--	--								
U.K.	--	32,930	35,520	43,250								
Canada	--	136,927	--	--								
U.S.	980,000	1,005,000	1,015,000	1,030,000								
Argentina	34,191	--	--	--								
Australia	65,706	64,714	61,112	61,361								

Source: FAO, Production Yearbook, various numbers.

Appendix Table IV: Consumption of Fertilizers, '000s Metric Tons

Country	1948/49- 1952/53	1960/61	1961/62	1962/63
<u>Nitrogenous</u>				
France	251.7	565.1	624.7	682.8
W. Germany	365	618	621.1	768.1
Italy	145.4	322.6	347.7	375.1
Netherlands	146.2	223.6	242.9	294
U.K.	209.3	462.6	496.4	541
Canada	34.6	90.6	98.3	
U.S.	1,270	3,080	3,430	3,700
Japan	368	753	695	669
Australia	15.6	24.6	35	37.1
<u>Phosphate</u>				
France	454	877	967	1,034
W. Germany	405	652	625	707
Italy	282	379	397	376
Netherlands	116	112	101	102
U.K.	402	426	452	433
Canada	111	197	197	
U.S.	1,960	2,377	2,529	2,717
Japan	225	491	453	465
Australia	338	572	590	649
<u>Potash</u>				
France	362	750	831	910
W. Germany	660	1,006	1,036	1,100
Italy	24	104	127	133
Netherlands	151	138	126	124
U.K.	215	450	442	444
Canada	60	100	107	
U.S.	1,243	1,967	2,060	2,181
Japan	145	600	493	506
Australia	8	33	47.9	37.8

Source: FAO, Production Yearbook, various numbers.

Appendix Table V: Livestock Numbers and Productivity by Countries, Thousands

Country and Item	1947/48- 1951/52	1957/58	1958/59	1959/60	1960/61	1961/62
<u>Horses</u>						
Denmark	499	237	212	171	125	100
France	2,403	1,982	1,903	1,825	1,729	1,617
W. Germany	1,582	974	913	814	710	634
Canada	1,586	678	617	574	514	480
United States	5,347	2,356	2,200	3,089		
Argentina	7,265	4,846	4,701	4,800	4,166	3,930
World total	75,800	71,000	70,500	70,400	67,300	64,700
<u>Cattle</u>						
Denmark	2,998	3,273	3,379	3,397	3,593	3,504
France	15,605	17,924	18,446	18,773	19,501	20,583
Canada	7,945	10,301	10,120	10,497	10,905	10,940
United States	80,424	91,176	93,322	96,236	97,534	100,002
Argentina	45,000	40,736	41,206	44,550	43,200	43,300
Australia	14,534	16,892	16,257	16,502	17,332	18,003
New Zealand	4,925	5,886	5,973	5,992	6,446	6,598
<u>Pigs</u>						
Denmark	2,829	5,347	6,074	6,147	7,095	7,181
France	6,582	8,131	8,469	8,357	8,603	9,217
W. Germany	9,563	15,495	14,734	14,876	15,776	17,207
Poland	7,534	11,959	11,209	12,615	13,434	13,617
Yugoslavia	3,957	4,226	5,657	6,210	5,818	5,161
Canada	4,792	5,162	6,882	6,419	5,528	5,138
United States	58,834	51,517	58,045	59,026	55,506	57,000
New Zealand	556	628	692	660	655	686
Brazil	24,879	44,190	45,262	46,823	47,944	50,051
<u>Cows</u>						
Denmark	1,529	1,415	1,433	1,438	1,493	1,463
France		9,246	9,361	9,493	9,830	10,067
Canada	3,138	3,129	3,108	3,162	2,987	2,956
United States	23,792	21,265	20,132	19,527	19,361	19,167
Argentina		16,210	16,394	17,820	17,280	17,135
Australia	3,949	4,210	4,110	4,025	4,020	4,105
New Zealand	1,935	2,075	2,031	1,989	2,026	2,055
Netherlands	1,486	1,525	1,565	1,628	1,676	1,751
<u>Sheep</u>						
France	7,498	8,573	8,749	8,942	9,063	8,924
Britain	19,945	26,105	27,612	27,871	28,967	29,498
Canada	1,176	1,129	1,159	1,206	1,153	984
United States	31,554	31,217	32,606	33,170	32,982	31,320
Australia	111,485	149,315	152,685	155,174	152,679	157,712
New Zealand	33,871	46,026	46,876	47,134	48,462	48,988

Appendix Table V--continued

Country and Item	1947/48- 1951/52	1957/58	1958/59	1959/60	1960/61	1961/62
<u>Poultry (chickens)</u>						
France						74,600
W. Germany	37,235	55,977	58,133	60,011	60,034	65,838
Italy	68,500	83,500	83,700	86,000	90,000	93,000
Netherlands	22,065	37,797	43,199	42,410	49,917	45,890
Britain	87,914	95,887	102,263	98,360	108,394	104,032
Canada	65,320	75,730	73,510	68,795	69,384	64,916
United States	442,922	370,884	383,529	369,484	361,685	368,452
Japan	20,502	50,291	48,219	54,629	71,891	90,006

Source: FAO, Production Yearbook, various numbers.



Appendix Table VI: Livestock Products by Countries (1,000 Metric Tons)

Country and Item	1948-52	1959	1960	1961	1962
<u>Milk</u>					
France	14,540	20,909	22,969	23,793	24,308
Netherlands	5,441	6,411	6,838	6,954	7,269
Denmark	4,915	5,426	5,399	5,524	5,355
Canada	7,051	8,257	8,393	8,737	8,764
United States	52,455	55,333	55,702	56,899	57,119
Australia	5,497	6,422	6,592	6,277	6,768
New Zealand	4,721	5,403	5,335	5,374	5,413
(No considerable changes of milk yield per milking cow)					
<u>Cheese</u>					
Denmark	69	115	113	122	114
France	281	412	398	399	424
Netherlands	130	205	202	213	224
Canada	44	54	66	70	71
United States	672	890	941	1,005	988
<u>Butter</u>					
France	224	330	259	288	297
Netherlands	81	80	99	97	102
Denmark	155	168	167	171	167
Canada	138	154	151	165	169
United States	697	640	651	696	715
Australia	158	194	201	185	202
New Zealand	177	222	211	213	214
Britain	17	20	45	56	65
<u>Dried milk</u>					
Denmark	8	20	22	24	
France	6	54	100	123	
Netherlands	41	95	128	105	82
Canada	40	99	109	124	114
United States	517	965	1,026	1,108	1,206
Britain	37	48	85	95	102
<u>Eggs (millions)</u>					
Denmark		1,947	2,303	2,110	1,887
W. Germany		3,912	7,895	8,372	9,133
France		7,211	8,500	8,955	9,250
Netherlands		1,879	5,825	5,999	6,061
Britain		7,285	12,924	12,888	13,356
Canada		3,809	5,413	5,159	6,210
United States		62,951	63,948	63,780	64,248

Source: FAO, Production Yearbook, various numbers.

Appendix Table VII: Meat Production by Countries (1,000 Metric Tons)

Country and Item	1948-52	1959	1960	1961	1962
<u>Beef and veal</u>					
Denmark	104	149	156	141	182
W. Germany	549	950	1,002	1,039	1,114
Poland	178	336	323	338	386
Italy	281	522	525	659	704
Britain	589	730	821	905	918
Canada	437	572	629	647	643
United States	4,785	6,617	7,183	7,413	7,398
Argentina	1,934	1,944	1,883	2,145	2,216
Australia	628	764	643	804	919
<u>Pork</u>					
Denmark	305	563	596	614	632
W. Germany	831	1,524	1,579	1,652	1,748
Poland	718	1,108	1,148	1,255	1,239
Italy	241	293	335	313	312
Britain	294	693	664	695	773
Canada	408	574	469	438	444
United States	4,905	5,440	5,264	5,176	5,371
Argentina	150	160	184	187	154
Australia	89	103	110	122	118

Source: FAO, Production Yearbook, various numbers.

## COMMERCIAL POLICIES AND TECHNIQUES

by

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In view of the major contribution of export trade to the Gross National Product and the equilibrium of the balance of payments, governments are assisting their exporters in developing their sales abroad and in overcoming the many obstacles which are placed in their way by policies followed by governments of other countries. In recent years, governments have been prepared to enter more actively the field of actual promotion, which was previously left entirely to the trade, and to assist traders by giving them credit facilities or guarantees. These new activities, however, cannot replace the traditional responsibility of protecting exporters against the adverse effects of foreign policies, which still represents today the principal objective of export policies.

### I - EXPORT PROMOTION TECHNIQUES

Trade and trade promotion are mainly the responsibility of private business in countries which still believe in free enterprise. Producers are responsible for supplying the type of goods which the customer is prepared to buy or can be induced to purchase at a price acceptable to that customer; traders have to bring the goods to the consumer and to get payment for them. On the domestic market, producers and traders do not expect the government to help them to find a customer. Why should it be different in international trade, and what kind of assistance can exporters expect from their official departments?

Foreign markets offer more risks than domestic ones; conditions are less familiar and profits are not substantially higher. Government support and assistance may be essential in convincing traders to enter uncharted areas. This is particularly true of new products which have not yet been exported and of new markets which have not yet been prospected. Governments can help exporters in a number of ways without duplicating their own efforts. Broadly speaking, three main lines can be defined: documentation activities, contacts and commercial propaganda abroad, and provision of services not adequately organized by private business.

(a) Documentation activities

The government is usually better equipped than private business for obtaining up-to-date and correct information about the terms of access to foreign markets. All governments have established a network of commercial offices in major capitals abroad which compile and distribute to central departments information on tariffs, licensing arrangements, exchange control measures, sanitary regulations, etc. This mass of information is pre-digested and circulated to all exporting interests or is kept available for their use. Administrative arrangements may differ from country to country; it would seem that the most practical method is the establishment of a semi-official Foreign Trade Centre, as organized in Paris, where documentation is prepared and submitted to suit the specific requirements of exporters; local sub-offices in exporting areas would bring information closer to the parties concerned.

The offices abroad of Commercial Attachés and Trade Commissioners, and also of Agricultural Attachés -- a comparatively recent innovation -- would give more detailed information to the exporters on regulations, but

also on trading conditions and practices, on market trends and other commercial indicators in the country where they are stationed.

Apart from the distribution of ready-made information, governments play an important part in research and market analysis. By giving to exporters an objective assessment of trading opportunities, export-promotion agents can direct efforts to receptive markets and avoid the waste which may result from unco-ordinated or ill-informed ventures.

(b) Contacts and commercial propaganda

Documentation activities, however useful they may be, do not create trade. Governments usually take a more active part in trade promotion by establishing contacts with their exporters, with importers of national products, and, last but not least, by bringing together would-be exporters and importers.

Government departments draw the attention of exporters to new openings, help them to organize common projects or to set up export associations and, generally, try to stimulate their enthusiasm.

Abroad, the agents of the commercial services pass on to importers or potential buyers current information, in the form of booklets or in the course of conversations or interviews, on the type of products which can be exported, their qualities or other advantages as compared with products from other origins. This can be supplemented by the organization of visits or tours in the exporting country to enable foreign operators to obtain first-hand information on the products and get acquainted with the people who produce or sell them.

Development of personal contacts between exporting and importing interests is essential in international trade as in many other activities, and governments are able to assist in many ways. One of the most profitable methods is the organization of trade missions composed of businessmen and accompanied by one or more officials. These missions can be sent by the exporting country to foreign places or, conversely, may consist of foreign businessmen invited to visit the exporting country. They may cover a wide range of interests or be limited to specific products or objectives. As trade is two-way traffic, this technique should also apply to the import trade. Governments also encourage their exporters to attend international meetings where they can initiate valuable relationships with businessmen of other countries.

Another practical assistance which is of great value to exporters is connected with the selection of agents abroad. In many cases, the exporter does not know the lay of the land sufficiently well to select a competent and reliable agent in a given country; the Trade Commissioner or the Agricultural Attaché may help him in finding the right man. This applies also to the choice of a local bank or transport agent.

Apart from individual contacts, governments are trying to get their export products known by a wider public. Trade fairs have become increasingly popular and most governments are prepared to assist in the preparation and the financing of such ventures. Although there seems to be a surfeit of these exhibitions, this technique remains very valuable.

Specialized fairs are becoming more fashionable than general commercial exhibitions, as they are more likely to be attended by importers and users than the more spectacular type of fair.



The Canadian record in fair organization appears to be excellent, as evidenced by a conversation I overheard some time ago near Lagos (Nigeria). A Yoruba youth was trying to convince a massive "Mummy" trader to give him bananas at a reduced price; he told her that her trading methods were out of date and that she should go to the Canadian Trade Fair in Lagos and see how modern people operated. "These Canadians", he said, "know their job; they do not force you to buy without letting you try the value of what they sell; they give you samples and if you like the stuff, you buy and become a regular customer." The old girl laughed and gave him a bunch of bananas.

Apart from the preference given to more specialized fairs, another recent development is the floating exhibition which was introduced by Japan and which enables the same exhibition to tour the world.<sup>1/</sup>

Advertisement in popular newspapers and magazines or in more specialized publications is used extensively to popularize products from the exporting country in general or some particular commodities. For certain products, multinational schemes of propaganda have been adopted to stimulate consumption; the cost has been shared by the governments of the exporting countries or by export associations.

These activities become fairly onerous and governments have, sometimes, asked the export interests to contribute to the cost of some of them, either by means of voluntary grants or by the payment of a tax levied on exports. Although governments are prepared to expand their responsibilities

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<sup>1/</sup> Another practical method is the organization of "in-store" displays of national export products for a week or a fortnight in department stores or supermarkets of a town in a foreign country.

in the field of export promotion, the trend in many countries is to associate private interests and to treat many of these activities as a joint venture between government and trade.

(c) The provision of specific services (export insurance and credit)

Since the war, governments realized that the organization of certain services in a free-enterprise economy does not always meet the requirements of international trade. For instance, insurance companies cannot be expected to cover risks of a noncommercial nature; banks cannot provide credits for more than a certain period. The cost of such services, on a strictly commercial basis, would be excessive. If certain exporting countries are prepared to provide these services to their exporters, terms of competition would be so affected for some trade flows that exporters of other countries who do not obtain the same facilities might be driven out of the markets. To meet these difficulties, governments have generally undertaken either to provide these services themselves or to grant a guarantee which would induce commercial operators to offer reasonable terms for the provision of such services.

Export insurance is organized to protect exporters against losses resulting from noncommercial risks, such as exchange control, political measures which may prevent the debtor from paying his debt, etc. This assistance is valuable when goods have to be sold on credit, especially investment goods. In the case of agricultural products, payment is usually on cash terms or on short-term credit. Normal documentary credits or other banking arrangements would normally guarantee that the seller will get his money before the goods change hands or that a reliable bank will be responsible for payment. If, however, trade with less-developed countries were to expand

in the future, some form of insurance method may become necessary, even for the export of foodstuffs.

Apart from insurance, governments apply techniques which enable their exporters to grant credit terms which would not be available normally. Two methods are applied: either the government sets up a bank for foreign trade or a financing agency which grants the credit to the exporter on reasonable terms, or the government guarantees the payment and, thanks to that guarantee, the exporter can obtain from his bank medium-term credit on moderate terms. From a practical point of view, there is not much difference between the two methods for the exporter, unless the provision of credit by the government is on such terms as to amount to indirect subsidization of the export.

For the delivery of agricultural commodities, the terms of credit authorized under these schemes do not usually exceed 18 months, and there is little competition between credit agencies. This, of course, is not necessarily true of other export activities, such as the investment goods sector where some governments offer terms of five, seven, ten years or more. To avoid excessive competition -- which amounted to subsidization -- the agencies agreed on certain rules embodied in the so-called Berne Convention.

Once engaged in these quasi-commercial activities, governments were sometimes induced to go a step further and to enter the export trade itself or, at least, to take a hand in the organization of that trade through marketing boards or other monopolistic devices. This kind of governmental activity can hardly be classified under export-promotion measures and will be considered in a later section.

Without underestimating the importance and the remarkable effects of export-promotion measures, it should be recognized that the main assistance which governments accord to their exporters is the aid which they give them to overcome the obstacles of a noncommercial measure which are the result of policies adopted by other governments and which exporters would be unable to overcome if their own government did not put into action the traditional methods of commercial policy.

## II - THE MAIN OBJECTIVES AND METHODS OF COMMERCIAL POLICY

### (a) The do ut des principle

While goods move freely from one part of a country to another, they have to overcome a number of obstacles before they can reach a foreign destination. So long as international trade was of a complementary nature, i.e., so long as countries were purchasing goods they did not produce or did not produce in adequate quantities, these trade barriers are not too restrictive; but now that most products entering world trade can be produced anywhere, imports compete more or less with the local product and access is not unlimited or free. On the other hand, exporters have to face competition from other suppliers and would be hard put if their competitors enjoyed better terms of access or were assisted by facilities offered by their own government in the form of export subsidies or other advantages.

As private enterprise cannot influence the policies of foreign governments, it has to rely on the assistance of its own government to secure for its products reasonable terms of access on export markets and fair terms of competition with other suppliers. This is the positive aspect of commercial policy; but, like the old Roman god Janus, commercial policy has two faces, one which is outward-looking and another which is inward-looking and concentrates on the protection of the home market against foreign competition.

These two aspects cannot be separated; advances on the export front have to be paid for by some retreat on the home front. Freer access to foreign markets for one's export products implies freer access on one's market for the trading partners' export products. This principle of do ut des has been and remains the golden rule of commercial policy. But, whereas all negotiators know that this is unavoidable, there are still many people in business or in official circles who dream of other methods of bargaining.

The conditions of negotiation are imposed by world political circumstances. States are sovereign and, so far, there is no international machinery which can force a government to do what it does not want to do or prevent it from doing what it wants to do. The only limitations to the freedom of action of governments are of a voluntary nature. If a government finds it profitable, it may accept to limit -- on certain points and for some time -- its sovereign right of framing as it likes its commercial policy. So long as this international agreement remains in force, traders can expect some stability in the terms of access and the terms of competition; but when the agreement lapses, the law of the jungle reigns again supreme.

There were times when limitations of sovereign rights could be imposed by force: China was forced to trade with European countries or Germany to grant the most-favoured-nation treatment without reciprocity to Allied Powers as a result of war. But, in normal conditions, a foreign government will be induced to abandon part of its sovereignty in the field of trade only if it obtains an equivalent advantage, which would be in the form of a corresponding limitation of the sovereignty of its trading partner. Although other forms of compensation are possible, it is usual to match guarantees of access for export products of one partner with guarantees of access for



export products of the other partner or partners. Although many refinements and more elaborate techniques have been introduced in the course of time, negotiations based on the principle of mutual advantage remain the most effective technique of commercial policy.

(b) The post-war system of commercial policy

In the thirties, the traditional methods of negotiation were discarded in many countries because they could not cope with the new protective and restrictive devices applied by many countries, such as quotas, licences, exchange controls and clearing arrangements. A new system was evolved after the Second World War which replaced bilateral trade agreements based mainly on the reduction and binding of individual tariff rates. Governments of trading nations accepted in 1947 a Code of commercial policy which limited their freedom of action more narrowly than any previous bilateral agreement, but did not interfere with their right of determining the level of protection, provided the protection took the form of customs tariffs. The stage was thus set for meaningful tariff negotiations.

This represented a considerable advance, but did not modify the fundamental political situation. Governments accepted these limitations only so long as they found that the disadvantage of abandoning part of their freedom of action was made up by equivalent advantages for their export trade. They could terminate their commitments by giving 60 days' notice and regain their full freedom of action. Even such a modest departure from national sovereignty proved too onerous for some trading nations. In spite of its precarious legal status, the new system proved its practical strength as time went on. The commercial interests of the parties to the General Agreement on Tariffs and Trade (GATT) were so closely intertwined that it was too risky for any major trading nation to undo what had been patiently put together.



(c) The "new order" proposed by the UNCTAD

The practical methods applied with success by the GATT were considered by a number of people as ineffective when it came to deal with the trade problems of less-developed countries. The Conference convened by the United Nations in 1964, and which has now become a permanent cog in the international machinery, tried to replace the traditional principles of equality of treatment and of equal responsibilities for all nations by a "new order" which would aim at meeting the requirements of less-developed countries, without paying too much attention to the former rules of the game or to the political structure of the world. It was expected that majority decisions by a Conference dominated by less-developed countries would induce the governments of developed countries to accept international commitments which would not even have been considered so long as negotiations were conducted on the basis of equality and of sovereignty. Although this attempt was not very successful since it presupposed the acceptance of a World government to which national governments would delegate part of their sovereignty, a number of points emerged from the discussions which may well influence the methods of commercial policy in the future.

The Conference stressed over and over again that equality between unequal partners amounted to a denial of equality. This concept was not entirely new and, as far back as 1947, the GATT recognized that if all its members should enjoy the same benefits, their obligations might be different and less-developed countries were entitled to certain facilities which were not enjoyed by more mature nations. This principle was reaffirmed when the GATT was revised in 1955 and is now embodied with other ancillary rules in the new Part IV on Trade and Development. But the Conference went much further than many governments were prepared to go and tried to divide the world

in two parts, the developed countries with tight obligations and the developing countries with practically no commitments but with considerable rights.

The second principle which is a natural consequence of the first is that developing countries should enjoy better terms of access than developed countries for their export products, and might expect to get their import products on better terms than developed countries. So far as trade in primary commodities was concerned, the basic demand was the organization of an international scheme for deficiency payments which would guarantee that, whatever the market prices, less-developed countries would obtain a guaranteed price for their exports, as farmers do in a number of industrial countries. The developed countries exporting the same products would have to be content with the market prices. The logical consequence of these proposals would be the establishment of a system of dual pricing both for exports and for imports. A number of less-developed countries enjoy already special prices or terms for part of their imports of foodstuffs and other commodities, thanks to concessional sales of wheat, rice, tobacco, meat, dairy products and the like, and the concept of dual export pricing is gaining ground. For instance, the United Kingdom agreed to pay to less-developed suppliers of sugar under the Commonwealth Sugar Agreement a special premium of £3.5.0. per ton for sugar sold under the negotiated price quotas. In their proposals concerning cereals, the EEC are contemplating some form of additional payment to less-developed suppliers if the export price obtained by them is less than the so-called "international reference price".

Whatever may be the practical results of the UNCTAD deliberations, it is likely that noncommercial considerations will play a greater part than before in trade discussions and that some traditional concepts such as

reciprocity, equality of treatment or balance of obligations may have to be revised, at least in dealings with less-developed countries. Developed countries may find eventually that both terms of access and terms of competition are deeply influenced by the action of the UNCTAD machinery.

### III - HOW COMMERCIAL POLICY OPERATED UNDER THE POST-WAR SYSTEM

#### (a) The prospects offered by the GATT system

As indicated earlier, the trading system introduced in 1947 represented a considerable advance as compared with what existed before the war. Ever since the thirties, international trade lived from hand to mouth. Although goods moved much more freely inside the Commonwealth than in other areas, new factors coming into play, such as dollar shortage and the stimulation of agricultural production in the United Kingdom required a reorientation of the export policies of many countries, including Canada. The new multilateral system promised to facilitate an expansion of Canadian exports and to simplify the task of officials responsible for commercial policy.

After the adoption of the General Agreement on Tariffs and Trade, there was no reason to think that these advantages would not accrue to agricultural exports in the same way as to other export products.<sup>1/</sup>

The general provisions of the Code did not contain any significant exception concerning agriculture and it was generally accepted that, after the financial difficulties encountered by many countries were eliminated, trade in agricultural products would be limited only by the operation of protective tariffs, and that export subsidies, although not dealt with very

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<sup>1/</sup> For the purposes of this paper, agricultural products are assumed to include: agricultural products in their natural state; foods; unmanufactured tobacco, furs, hides and skins; agricultural raw materials and beverages in the first stage of processing.

effectively, would not prove a major problem. The main feature of the new system was the ban on quantitative restrictions as a means of protection. This new quota technique introduced in the thirties had proved the most serious obstacle to trade, both because it was more restrictive and because it could not in practice be applied in a nondiscriminatory manner.

For a country like Canada, the new system offered many advantages. Its agricultural production had increased considerably during the war and it was unlikely that the United Kingdom, which absorbed 60 per cent of Canadian agricultural exports before the war, could continue to absorb exportable surpluses of that magnitude, the more so as the United Kingdom was short of hard currencies and intended to reduce its dependence on overseas supplies of essential foodstuffs. Once the obstacle of quantitative restrictions was eliminated, better terms of access on other markets could be secured by means of tariff reductions, and the Canadian government was prepared to lower its own tariffs in order to expand its exports, particularly of farm products.

The readiness of the United States to participate in a far-reaching attempt to dismantle its awe-inspiring tariff walls on the basis of reciprocity made participation in the new machinery particularly attractive for a country like Canada which could expect to find an expanding market in the neighbouring country.

From the start, the Canadian government backed the GATT and took a very active part in its discussions and in the tariff negotiations sponsored by it.

(b) The negotiations within the framework of the GATT

Canada took part in all the Tariff Conferences held under the auspices of the GATT from 1947 onwards and based its commercial policy to a large extent on a full use of the opportunities offered by these negotiations.

From the point of view of trade coverage, the results are impressive; the magnitude of the tariff cuts are also spectacular. As was to be expected, the emphasis was on negotiations with the United States; rates on more than 200 agricultural items of the U.S. tariff were reduced; the average ad valorem incidence of U.S. tariffs on dutiable agricultural items came down from a maximum of 85 per cent reached in 1932 to 18 per cent after the first 1947 GATT negotiation; it declined further to a level of 11 per cent in 1962.<sup>1/</sup> As, with a few temporary exceptions, Canadian agricultural exports did not meet nontariff obstacles on the U.S. market, there can be no doubt that the concessions thus obtained led to substantial results. Exports expanded from \$65 million before the war to \$216 million. Depending on the price elasticity of demand, tariff reductions led to increases in volume or a better money return for the exporters and Canada.

Tariff negotiations were also conducted actively with other actual or potential customers. Because of the persistence of balance-of-payments difficulties, it was not expected that the tariff concessions would be rapidly effective. The negotiation was more in the form of a medium-term speculation. Results were nevertheless encouraging. Trade in agricultural products developed rapidly with Continental Europe and Japan which were not major trading partners before the war. It may be that expansion of Canadian exports

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<sup>1/</sup> To the extent that tariffs contain a specific element, the incidence may have been reduced by price increases.



was more influenced by the Canadian tariff concessions negotiated with these countries and the liberal attitude adopted vis-à-vis their exports than to a direct effect of concessions obtained by Canada from these countries. During the immediate post-war period, Canada developed its exports of farm products to Continental Europe in spite of the financial difficulties encountered by many of the countries of the region; wheat shortage put the major Canadian export on the priority list and financial assistance by the United States and Canada helped the European countries to overcome the dollar shortage. But trade channels were established as a result of these sales. As European exporters found it practicable to enter the Canadian market, as a result of tariff reductions, they brought in Canadian dollars, which led to a continuation of purchases initiated during the post-war period. Without attempting to balance imports and exports on a strict bilateral basis, governments find it much easier to encourage trade when it does not lead to serious imbalance. In 1963, Canadian imports from the EEC countries, its main partners on the Continent, totalled U.S. \$317 million, and exports to the EEC were U.S. \$452 million, of which \$157 million represented sales of foodstuffs. During the same year, Canada bought from Japan U.S. \$121 million worth of Japanese goods and sold to that country goods to the tune of \$276 million, of which nearly \$100 million related to foodstuffs.

Although less extensive, negotiations with other countries opened up new trade channels, but the effects of tariff concessions may have been sometimes impaired by other factors, such as the lack of financial resources.

So much for the concessions obtained in favour of Canadian exports. As negotiations were conducted on the basis of mutual advantage, a price had to be paid for them. Canada offered or was asked to reduce its tariffs on



agricultural and other products. As a result of the negotiations, the average ad valorem incidence of the Canadian tariffs on dutiable agricultural products was halved between 1947 and 1963. This significant lowering of protection was more apparent than real, because of the structure of Canadian imports of farm products. Most of the agricultural products imported by Canada are not produced in that country and, for the few products such as corn, soya beans, mutton, wool, vegetables and fruits, which are also produced in Canada, there is little competition with the domestic product. Imports are not likely to displace local supplies, and they represent a small fraction of the total supply. The only sectors where imports would have been aggressive, such as butter and cheddar cheese, have been kept out of reach of exporters by severe nontariff measures.

For that reason and also because Canadian tariffs on agricultural products were already moderate before 1947 (the average incidence amounted to 16 per cent), the value of agricultural concessions was not very great, and, to reach a balance, Canada had to reduce tariffs on nonagricultural items. The better terms of access obtained for Canadian agricultural exports had to be paid for partly by means of a lowering of the protection granted to sectors of the manufacturing industry.

Moreover, Canada had to bargain away some of the preferential advantages it enjoyed on the British market and to reduce preferential advantages granted to British products on the Canadian market. The upshot of the GATT negotiations was a general reorientation of the channels of Canadian exports, and especially of exports of farm products.

(c) The effects of the post-war commercial policy on the structure of Canadian agricultural exports

Apart from the general expansion of export trade which was due partly to the lines adopted for the Canadian commercial policy, and partly to the successful efforts of the producers and the traders, the improvement of the terms of access in a number of markets for a number of products reduced, to a large extent, the overdependence on a limited number of products and on a limited number of markets, which characterized the structure of Canadian agricultural exports before the war.

So far as products are concerned, more farm products are now exported than in 1939 (200 instead of 90). New products have recorded spectacular advance, such as seeds. A greater proportion of the Canadian production of rye, peas, flax-seeds, grass seeds, milk powder and maple products is exported than before. On the other hand, dairy products including cheese, hogs and fresh apples have lost their previous position as export products and a greater part of the production is consumed locally. This adverse development cannot, however, be considered as attributable to commercial policy factors. For other products such as wheat, oats, clover seeds, cattle, wool, honey and tobacco, exports account for about the same percentage of production as before the war.

The opening up of new trade channels has not proved sufficient to overcome the climatic and other physical limitations placed on diversification of production in Canada. This is an important factor which has to be taken into account when considering future prospects and policies. Canada continues to depend mainly on the export of one agricultural commodity, wheat. Even if the 1964 figure is considered as unrepresentative, wheat exports still account for more than half the total value of Canadian

agricultural exports. If wheat brings in nearly \$1 billion each year, the balance is made up of a number of items which, separately, are exported in comparatively small amounts. Very few items bring in more than \$50 million and the usual range is from \$10 to \$30 million. This overdependence on one single commodity dominates Canadian commercial policy; on the other hand, it is necessary to follow closely a number of smaller export lines which, taken together, bring in nearly as much foreign exchange as wheat.

The process of geographical diversification of outlets is more advanced. Dependence on the British market has been brought within reasonable limits; the United Kingdom which once bought more than 60 per cent of Canadian farm exports no longer absorbs more than a quarter of these exports. The United States also accounts for about one quarter of Canadian agricultural exports. Although this percentage is not higher than before the war, the composition of exports to the United States is particularly valuable. Canada can hardly expect to export wheat, its major agricultural export product to the States, and the value of such exports does not exceed \$15 million, half of which is taken in the form of seed wheat. The expansion had to take place in other lines; freer access to the U.S. market encouraged exports of a number of farm products to that country, which now purchases half of Canadian exports of agricultural products other than wheat. For a number of them, such as live animals, meat, malt, biscuits and cakes, hay, milling and vegetable oil residues, meat and fish meal, fur skins undressed and cut flowers, the U.S. market absorbs more -- and often far more -- than one half of total Canadian exports.

At the same time, Canada is a valuable partner for U.S. agriculture which supplies more than half of Canadian agricultural imports, more

than it did before the war. The United States is by far the major supplier -- and sometimes the only supplier -- of live animals, meat, eggs, rice, maize, apples, grapes, preserved fruit, vegetables, animal feeding-stuffs, unmanufactured tobacco, oilseeds (soya beans) and cotton.

The liberal policy adopted by the two partners is profitable to both and a close division of labour in many sectors of agricultural production has been established in spite of the political frontier. As a result of geographical proximity, of the expanding demand for an affluent neighbour and of fairly free access, Canada was able to develop certain lines of production which would hardly be exportable in the absence of the U.S. market. Although Canada imports more farm products from the United States than it exports to that country, the adverse balance remains within manageable proportions, around \$50 million.

These results were achieved because, with a few temporary exceptions, the effect of tariff concessions was not seriously impaired by non-tariff measures. This was due mainly to the fact that products exported by Canada did not conflict generally with the aims of the U.S. support-price measures. Some restrictions, however, were imposed from time to time and Canadian meat exports may be affected by the new quota arrangements adopted recently, although it is not expected that imports will be restricted in 1965.

In quantitative terms, diversification of export outlets in markets other than the United Kingdom and the United States is more spectacular. These markets absorbed only 17 per cent of Canadian exports of farm products before the war; they purchased about 56 per cent of these exports in recent years. The number of trading partners increased from 34 to 130. The EEC

countries are taking 16 per cent instead of 6 per cent of Canadian agricultural exports and Japan 10 per cent instead of less than 1 per cent. For the reasons set forth earlier, it would seem that this expansion was greatly influenced by the commercial policy measures adopted by Canada.

Recently, Canada increased its exports to Eastern European countries and to Mainland China. These sales raised the level of Canadian exports and increased the share of markets other than the United Kingdom and the United States. This development cannot be explained by successful tariff negotiations, since tariffs do not play any role in the commercial policy of planned-economy countries. Canada did not conclude any bilateral payment agreement with these countries, nor did it commit itself to buy more goods from them. The only commercial policy factor which may have influenced these countries -- or some of them -- to buy wheat from Canada is the granting of the most-favoured-nation treatment to the goods exported by these countries so long as they commit themselves to purchase wheat in Canada. This may have had some influence, but it is more likely that purely commercial factors -- and the practical difficulties of purchasing from the United States -- have played a determining role in the decision to buy Canadian wheat.

If sales to Communist countries are left on one side, exports of Canadian farm products are shipped mainly to industrial countries; there are few less-developed countries among Canadian customers and those which buy from Canada belong to the more affluent fringe of the group. South Africa, Venezuela, the Dominican Republic, Ecuador, Peru, the Central American republics, the Philippines, Saudi Arabia, Hong Kong, Malaysia and Ghana are the only less-developed countries which purchase Canadian farm products to any significant extent. This feature of Canadian export trade which was a



source of strength in the past may become a source of weakness in the future in view of the dependence on wheat, whose consumption will probably remain stagnant in the diet-adequate countries and expand only in the less-developed regions of the world.

#### IV - THE IMPACT OF POST-WAR AGRICULTURAL POLICIES ON INTERNATIONAL TRADE

##### (a) The objectives and methods of agricultural policies

In many countries, the prices which farmers would obtain, on free markets, for their main crops would not bring them an income comparable to that of persons gainfully employed in other economic activities; moreover, these prices would fluctuate in response to the vagaries of supply and demand on world markets. Accordingly, farmers pressed their governments to adopt policies which would ensure a reasonable degree of stability for farm prices and, wherever practicable, a level of income corresponding to that of other economic sectors.

The solution adopted generally was the adoption of support price policies. The link between domestic producer prices and world prices was severed and, in most cases, governments took the responsibility of maintaining prices paid to domestic producers at or near a guaranteed minimum level which was higher, and sometimes much higher, than world prices. The cost of such systems was borne by the consumer if retail prices followed closely producer prices, or by the taxpayer if retail prices reflected world prices.

The techniques differed from country to country. In the United Kingdom, for instance, retail prices are not influenced by support prices, but the domestic producer receives from the government a deficiency payment which brings the price received on the market to the level guaranteed to the producers. In the United States, as well as in a number of European



countries, including the EEC, a governmental agency buys in effect any quantities offered on the market and which cannot be sold at the guaranteed price. From the point of view of international trade, differences in techniques are not important and the main factor is that domestic prices (at the producer's or the retailer's level) have to be effectively insulated from and protected against world price trends. Unless this is achieved, no support-price policy can be carried out.

(b) The implications of agricultural policies for the terms of access to markets

As the domestic policies adopted in many importing and exporting countries since the war require a watertight separation of national markets from the world market, no government can apply to products covered by support-price arrangements an import policy which would leave any room for price competition, if such competition had the effect of displacing part of the domestic supply. If that were the case, the government would have to buy up all the foreign surpluses which would be offered on its market to keep its promise to its producers.

The consequence of these support policies is that the entire domestic crop has to be absorbed by the market or taken care of by the government in one way or another. Tariffs which are based on price competition had to be discarded, unless raised to prohibitive levels, when the spread between national and world prices was likely to be wide. Unless governments were prepared to face bankruptcy, they had to adopt policies more restrictive than anything which was authorized under the post-war commercial system.

The simplest and the most obvious technique was that of quantitative restrictions. Under that system, the government lets in only the quantities which are required to supplement the domestic supply if and when it is not sufficient to meet the estimated domestic requirements. If that supply is ample, imports are prohibited or suspended. That technique is applied in many countries (including Canada for some dairy products and a few others). It is, of course, inconsistent with the ban on quantitative restrictions accepted by all GATT members. That technique effectively prevents any price competition between foreign and domestic suppliers, the latter being certain of disposing of their crop at the guaranteed price, at least so long as that crop does not exceed national demand. It usually does not affect terms of competition between foreign suppliers, although it may lead to bilateralism and thus involve a certain amount of discrimination.

Another technique which was applied mainly by West Germany is based on state-trading. A governmental agency asks would-be importers to quote prices for the supply of a given foreign product. The agency determines the amount to be imported to supplement domestic supply; it buys the amount thus determined from the importers having made the lowest bid and immediately after resells the same amount to the importers at the domestic price which is fixed by the government. This is a neat operation; no competition with the domestic producer is possible and the government cashes in the difference between the world and the domestic prices. It is only in the exceptional periods when world prices exceed domestic prices -- as has happened twice for sugar -- that the government suffers a loss.

Instead of quotas or state-trading methods, the government may wipe off the difference between world and domestic producer prices and thus

eliminate any price competition by means of variable levies. This technique, introduced by West Germany in the case of malt and by Sweden for a number of farm products, is the mainstay of the common agricultural policy of the European Economic Community. It represents the first line of defence for most products, and the second line of defence (after custom duties) in the case of beef and veal. Imports are not restricted, but the collection of the levy guarantees that selling prices of the imported product will always be higher than the price at which the domestic product can be offered. A small percentage difference is enough to ensure the complete disposal of the domestic crop.

Apparently, the deficiency-payment system adopted by the United Kingdom in a number of cases and occasionally by other countries, including Canada, does not seem to lead to any interference with the flow of imports. No import restrictions are necessary and even tariffs may be dispensed with; the system, by itself, ensures that domestic producers dispose of their entire crops at the price guaranteed by the government. The liberal appearance of that system, however, is deceptive. It precludes price competition as effectively as other techniques and market erosion, i.e., the gradual replacement of foreign suppliers by domestic producers is no less pronounced. In favour of that technique, it has been argued that it stimulates consumption since it keeps retail prices at a lower level than other methods. This is true on two conditions: (a) that the price elasticity of demand is fairly high -- which is not often the case for foodstuffs, and (b) that the domestic supply is inelastic or that the government is not prepared to increase its total outlays on deficiency payments.

One of the defects of the deficiency-payment system is that it is open-ended. If world prices are unduly depressed, the difference between world and domestic producer prices widens and the financial liabilities of the government become far more onerous. To overcome this difficulty, the British government recently introduced some correctives, such as the minimum import prices in the case of cereals and import restrictions for butter and bacon. If the landed price of imported cereals is lower than the minimum level, a variable levy is collected which brings it up to the desired level; in the case of butter and bacon, the rationing of the market keeps prices at a reasonable level.

Whatever may be the techniques applied by the importing country, the terms of access are no longer dependent on commercial policy decisions; they are determined exclusively by domestic agricultural policies. Since the objective of these policies is to ensure that the domestic crop will be disposed of at a predetermined price, these terms depend on the actual size of that crop and on very little else.

Apart from the effects of natural forces (rain, drought, floods, pests, etc.), the size of the crop is influenced by the price at which the producer expects to sell, and the income he would get from alternative productions. When prices are fixed by the government, there is a direct correlation between the size of the crop -- and therefore the room left for foreign supplies -- and the level of the guaranteed prices for that product and alternative crops. Support prices are the result of negotiations with the farmers and, although often based on cost data, they can be influenced by local political considerations.

In a number of countries, the guaranteed price applies to the entire crop, a method which accelerates the process of market erosion. Some governments, however, have succeeded in limiting their financial commitments by putting a ceiling on the size of the crop which would benefit from the guaranteed price. This is the "quantum" system applied by France in the case of wheat and the "standard quantity" technique recently introduced by the United Kingdom for cereals. If the crop exceeds these limits, the surplus is sold at free market prices on world markets or denatured or disposed of at bargain prices. Alternatively, the deficiency payment may be spread over the actual crop so that the producer receives less per ton. These correctives may check to a certain extent the excessive stimulus to production which high prices would bring into play.

A similar, but less effective, result may be obtained through indirect controls such as the acreage allotments applied in the United States. The check on production may be made nugatory by production techniques which increase the yield per acre or by moving controlled crops to more fertile land.

The impact of domestic agricultural policies on the terms of access to markets is such that governments are not able to accept meaningful international commitments regarding their commercial policy if they wish to maintain their freedom of action with respect to their agricultural policy. They cannot enter into trade agreement if the level of their support prices is unbound and if the size of their crops is not limited.

(c) The implications of agricultural policies for the terms of competition on world markets

Agricultural policies determine the terms of access to importing markets, but they also influence terms of competition between exporting countries. Support-price policies are not applied solely by net importing countries. A number of exporting countries apply the same policies, and more would follow their example if they had the same financial resources. Apart from the case of traditional exporters, high support prices may stimulate production so much that the crop can no longer be absorbed by the national market; the former importing country is then induced to export the surplus, which may be occasional or more permanent; as exports at the prices received by the domestic producers would not be possible, a loss has to be borne by somebody other than the producer. In any case, the price at which these surpluses are offered on world markets is no longer determined by supply and demand, but by a number of other factors. Even on these markets, the price mechanism ceases to operate.

If the exporting government is financially strong and it is politically possible to ask other groups of the community to bear the cost of the operation, the government pays to the exporter the difference between the price he paid for the product and the price he can get on the world market. This can be done in a number of ways: direct subsidies in cash, export certificates redeemable in kind against specific quantities of the same surplus commodity or of other products, import privileges which involve a profit making up for the loss sustained, etc. The imagination of traders and officials has been very active in developing ingenious and discreet subsidization techniques.



To limit its financial liabilities, the exporting government may be obliged to control exports so as to reduce price declines. This policy, which has been followed by the United States and also by Canada for wheat, implies that the government is prepared to hold back part of the crop and to guarantee or finance the stocking operations for the whole carry-over stock or for any amount exceeding a certain level. This leads to the setting up of an export monopoly administered by the government or by a semi-official body. When the exporting country is a major supplier, such policies may be effective; for instance, wheat prices have been kept at a fairly stable level because of the marketing policies of the major exporting countries, but this leads to an abnormal accumulation of stocks, since the producer is no longer obliged by price fluctuations to cut down its production.

Other means of limiting the financial commitments of governments have been applied. In the case of France, for instance, the wheat "quantum" includes an amount for export which is paid at the guaranteed price; but the guarantee does not extend to quantities exported in excess of that amount. Producers may be called upon to bear part of the cost of export subsidies by paying a tax on quantities delivered for home consumption or for export; this system is applied in France for wheat and sugar. Another system which aims at checking excessive production is based on dual pricing: the quantities exported benefit from a lower price than those which are sold on the home market. That system is now in force in the United States for wheat. For the 1965-66 wheat crop, the support loan rate is \$1.25, but farmers complying with their acreage allotments receive a certificate which is worth 75¢ per bushel if the wheat is sold on the home market, but only 30¢ for exports.

In countries where a large part of the crop is exported and where exports of agricultural products represent a substantial percentage of the domestic product, such transfers of income would be self-defeating. The government can only expect to guarantee the price paid for that part of the crop which is disposed of on the domestic market. The consumer is then obliged to pay a higher price and this policy is enforced by the same techniques as those applied by net importing countries. Such a system is in force in Australia for butter and sugar and even the Danish government, which refrained from adopting such methods for a long time, has now allowed domestic butter prices to exceed export quotations.

In theory, such price manipulation could be limited to the adjustment required to bring export prices into line with world quotations. This would be possible if world prices were a fixed quantity; but this is not the case: world prices are determined by the quantities offered and the price at which these quantities are offered. As soon as export prices are manipulated by governments or export monopolies and production ceases to be influenced by world prices, any price quoted by major exporters influences the price obtained by other suppliers. It is practically impossible, in these circumstances, to determine whether some exports are subsidized or not.

This chaotic situation was particularly revealing in the case of butter some years ago. Occasional surpluses resulting from support-price policies and other factors were dumped on the British market and prices plummeted down. Free competition was ineffective and an attempt to bring the exporting countries together in order to control their exports failed. The importing country, to bring back some order on its market, had to restrict imports and to allot quotas to suppliers by unilateral decision.

The imposition of controls was the only way out of the chaos, and, paradoxically, this restrictive measure was taken mainly to protect the interests of exporting countries which were unable to come to terms.

For some major commodities, the surpluses are so large that even subsidy techniques cannot guarantee their disposal and part of them have to be traded on noncommercial terms. In theory, this could succeed without having to distort terms of competition on commercial markets. There is, indeed, a large and growing demand for essential foodstuffs which cannot become effective so long as the consumer has to pay the normal price. Concessional sales could satisfy that additional demand and leave commercial markets unaffected. But, in practice, this is very difficult to achieve. The bilateral arrangements which are now in force, even if their conclusion is preceded by consultations with exporting countries, are not offering a real protection against possible diversion of traffic. Competition with noncommercial sales which is a direct result of support-price policies is becoming a major factor for some commodity markets.

(d) The inadequacy of the post-war commercial system with respect to agriculture

The post-war commercial system based on nondiscrimination and a ban on a resort to nontariff measures for purposes of protection worked smoothly with respect to trade in nonagricultural products. As soon as balance-of-payments difficulties disappeared, restrictions were generally removed and tariff concessions became fully effective. Price competition became the rule and successive tariff negotiations gradually widened access to foreign markets. A ban on export subsidies accepted by industrial countries and protection against dumping provided a reasonable assurance that terms of competition would be fair.

In the case of agricultural products, the expectation that trade would return to normal conditions was frustrated, as the widespread adoption of support-price policies prevented governments from living up to their international commitments. For a number of years, exporting countries did not realize the extent of the damage which might be caused by such policies on trade flows. Shortage of essential foodstuffs stimulated imports after the war and restrictions were, in any case, justified by the lack of foreign exchange. The first sign of trouble was the request made by the United States for a waiver of its GATT obligations with respect to agricultural products. Although exceptions to the GATT provisions had been secured by the U.S. government in 1947, they were found to be unduly narrow. Other governments reluctantly accepted this ominous deviation from the rules as a price to be paid for the ratification by the U.S. Congress of the GATT arrangements. This concession proved, however, ineffective, as such a ratification was not secured.

By that time, some European countries had improved their financial situation to such an extent that quantitative restrictions could no longer be justified by balance-of-payments considerations. There was, however, no sign that these countries were prepared to dismantle their systems of quotas and state-trading. Germany, which in the meantime had become a valuable trading partner for Canada, Belgium and Luxemburg did not comply with the demands of exporting countries that they should free imports of farm products.

Exporting countries tried to enforce the rules and to bring pressure to bear on countries which were in breach of their obligations. The discussion centred around the technicality of the breach rather than the substance of the problem. Restrictive systems not based on quotas or

state-trading escaped scot-free and the adoption of variable levies provided an easy way out. So far as terms of competition were concerned, the rules adopted in 1947 did not offer much protection. Because of the special position of the United States, it had not been possible to ban export subsidies on agricultural products, and the only commitment was to refrain from subsidies which would procure for an exporting country more than an equitable share of the market. Although this rule has some value, as was proved in the case brought up by Australia against France with respect to the subsidization of flour exports, it is not easy to apply. Recommendations relating to surplus disposal led to the organization of consultations with exporting countries, but, by and large, exporters of a number of staple farm products came to the conclusion that the provisions which were not accepted in 1947, even with the improvements introduced later on, could protect their trade against abnormal competition.

Exporting countries might have resorted to the means of redress embodied in the GATT and introduced retaliatory measures. This course, however, was generally not followed, for a number of reasons. Governments rightly feared that such measures would be insufficient to overcome the political difficulties which governments had to face in their own countries. Moreover, if the legal position of exporting countries was very strong, their moral case had been weakened by breaches committed by many of them and, also, by the granting of an open-ended waiver to the United States. So long as the most powerful trading partner was exempted from its obligations, it was politically impossible to convince other governments that it was equitable to enforce the law against them. Finally, governments realized that the disease was deeper than the legal breach of resorting to prohibited techniques, since other techniques, which were authorized, could cause the same adverse effects.



While exporting countries continued to press for an improbable enforcement of the rules of the game, with less and less conviction as time passed by, they tried other methods of commercial policy. Some of them resorted to bilateralism to obtain as large a share of the import quotas as possible; they resorted to subsidies to counter-balance price manipulations by competitors; they encouraged their exporters to agree on common, higher prices for sales to countries where imports were controlled on the basis of country quotas; they entered into arrangements with the importing country to maintain as much order and freedom as possible on specific markets. But, until the Kennedy Round, no real attempt had been made to consider the problem as a whole and to hammer out a new multilateral system for agricultural trade which would replace the arrangement concluded in 1947.

#### V - OTHER POLICIES AFFECTING TRADE IN AGRICULTURAL PRODUCTS

Apart from the support-price policies which constitute the main obstacle and which affect or may affect the Canadian exports of cereals, dairy products, meat, vegetable oil and oilseeds, tobacco, fresh fruit and vegetables, as well as processed products derived from these commodities or containing sugar, other governmental policies, whose importance has grown recently, may create problems for the export of these and other products.

##### (a) Direct government participation in international trade transactions

A growing number of governments enter the field of international trade as importers or exporters. Sometimes, they grant monopolistic powers to a semi-official marketing board which may be backed financially by the government. As these agencies are not always guided by commercial considerations or required to make profits, they may distort terms of access or terms of competition more drastically than a private agency, even supported by the operation of agricultural policies.



On the import side, the consumer is not able to show his preference for a particular source of supply; imports are planned and are considered, in many cases, as a mere supplement to domestic supply; as contrasted with the restrictive policies in market-economy countries, the difference is that, at least in the latter countries where consumption is not controlled, the government does determine in effect the level of total consumption. Secondly, purchases may be influenced by noncommercial or even political motives. The selection of the supplier may be determined by the terms of bilateral agreements on trade and payment which may distort channels of trade. In some cases, such agreements provide for purchases exceeding the national demand as determined by the planning authorities, and the surplus is dumped on world markets at cut prices. Re-exports of Burmese rice, of Egyptian cotton and of Greek tobacco have, at times, depressed the world prices of these commodities.

On the export side, price considerations may be discarded if necessary to achieve certain specific aims such as securing foreign exchange at any cost, penetrating individual markets for ulterior motives, political expediency, etc. For state-trading agencies, export price manipulation is easier than for private business, even supported by the state, or for marketing boards which have, eventually, to balance their accounts.

The main disadvantage of state-trading for exporting countries is its unpredictability. Sources of supply may be changed at short notice; unexpected quantities may come on the market; shortages may develop unnoticed; prices may and usually are unrelated to cost, as understood in the West; no real stability in the channels of trade can be expected from trade based on governmental decisions.

(b) The exchange-control policies

While industrial countries and some semi-industrialized areas have overcome their financial difficulties and are no longer obliged to ration their imports, most of the less-developed countries are facing growing balance-of-payments difficulties, which are made more acute when the government adopts an ambitious development policy. Although basic foodstuffs are usually at the top of the priority list when domestic supply is insufficient, this is not the case for other agricultural products which are considered as less essential.

The main problem, however, is the allocation of exchange among the various sources of supply. It is natural for governments facing financial difficulties, to save convertible currencies as much as possible and to encourage imports which are paid for in soft currencies or -- what amounts to the same thing -- with goods in the framework of a bilateral payment agreement. Exporting countries which are prepared to accept these terms may secure a larger share of the market. Another trend is towards the establishment of regional payment and clearing arrangements along the lines of the European Payment Union. Although proposals made in Latin America and South-East Asia have not yet come to fruition, they may be revived in connection with plans for regional economic integration.

(c) Regionalism and preferences

Regional integration is rapidly becoming a catchword in many parts of the world. Apart from Europe and Central America, advances made in the direction of regionalism have not seriously affected trade in agricultural products so far, but progress may be more rapid in the future, and agriculture may be involved in the process.

In Europe, the only scheme which covers farm products is the European Economic Community, since the EFTA is limited to manufactured products, with a few exceptions. Integration in the EEC does not work in the same way in the industrial and in the agricultural sectors, because domestic policies are different. Whereas, in the case of industrial items, governments accept free competition inside the Community and rely on tariffs in commercial intercourse with the rest of the world, the common agricultural policies adopted so far extrapolate the national policies so as to grant to regional producers the same privileges as national policies accord to national producers. This extrapolation worsens considerably the terms of access for outside suppliers. Before integration, domestic producers could dispose of their crop without any competition from outside but, if the demand was not fully met by the local producers, other countries could compete for the balance. Imports were made at world prices and, unless country quotas were applied, Canada had the same chances as, for instance, France or the Netherlands. After integration, Community suppliers are in much better position to obtain the whole import market, as the variable levies applied in their case are lower than those applied to supplies from outside; when prices are the same in the Six Member States, these suppliers would sell at their own domestic price and would be exempted from the levy which will still be paid by the outside supplier. This ingenious system can work with a very slight margin of preference embodied in the "montant forfaitaire"<sup>1/</sup> and it effectively reduces the outsider to the role of a "residual supplier" who can only enter the market when all regional surpluses have been absorbed by the deficit countries of the Community.

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<sup>1/</sup> This fixed amount represents the difference between the levy on imports from third country and the levy of imports from Community suppliers.

Of course, one might conceive that common target prices would be fixed at levels which would make the new system more liberal than the sum of the former national arrangements, but there is no sign that such a policy would be adopted in the near future, and decisions taken in December 1964 regarding common target prices for cereals are far from encouraging.

Although these common policies apply only to six European countries, it is very likely that any rapprochement between the EEC and other European countries, in the form of new accessions or of association agreements, would lead to the application of these new principles and techniques to other European countries. In view of the particular interest of Canada in the United Kingdom market, such a prospect should not be underestimated.

Preferences played an important part in Canadian trade before the war and stimulated exports to the Commonwealth. As a result of tariff negotiations, these preferences have been substantially reduced and other factors such as the new orientation of British agricultural policies have still weakened the influence of such arrangements on Commonwealth trade.

There is today a school of thought which recommends the granting of preferential treatment to all less-developed countries. The UNCTAD supported proposals for compensatory financing which would enable less-developed suppliers of primary commodities to receive what might be called an "international deficiency payment" when their selling prices fall below a certain level, or when their total export earnings decline. If such a scheme were adopted, less-developed suppliers of agricultural products would be more or less in the position of farmers in importing countries such as the United Kingdom, and they would be able to accept lower prices than if their income were determined by market quotations only. Vis-à-vis suppliers from

developed countries, they would enjoy more favourable terms and this preference could lead to serious distortions of the pattern of trade. Such arrangements might lead to excessive stimulation of production in less-developed areas of the world and depress prices on the world market. Moreover, the same school of thought supports the idea of a general preference to be granted by less-developed countries to other less-developed countries through various types of arrangement which would make it more difficult for exporters of developed countries to enter these markets. While competition from less-developed supplying countries for the major export products of interest to Canada is not likely to become very serious, the adoption of such preferential arrangements may affect the prospects of some secondary export lines.

(d) Bilateralism

The adoption of policies which restrict access to import markets and which cannot be countered by traditional negotiating techniques induced a number of exporting countries to seek quantitative guarantees of access in the form of minimum quotas or fixed commitments to buy. Generally, the importing country was only prepared to grant these assurances if the exporting country were prepared to offer something in exchange. Either the exporting country had to give similar assurances for the export of goods from the purchasing country, or payment facilities had to be given against goods, or within the framework of a bilateral clearing arrangement, or on favourable credit terms.

So long as restrictive agricultural policies remain in force, it would be difficult to dismantle the network of bilateral agreements. In any case, this type of commercial policy is standard practice in planned-economy



countries and is adopted by a growing number of less-developed countries which try to apply it not only in their dealings with Communist countries or other less-developed countries, but also in their trade with industrial trading partners. Countries which are unwilling to enter into such arrangements may be at a disadvantage if other supplying countries adopt more flexible policies.

VI - THE PRESENT POSITION OF CANADA WITH RESPECT TO THESE EXPORT PROBLEMS

Although Canada has been exposed to the effects of the policies analyzed in the preceding sections, its exports of farm products have expanded consistently since the war. Canada is the fourth largest exporter of farm products and accounts for 7 per cent of world exports of these products. In volume, Canadian exports are as high as they were during the exceptionally favourable war period; about one third of total farm production is exported as was the case before the war. Even for wheat, the most sensitive export item of Canada, 50 per cent to 60 per cent of current production goes abroad, and Canadian share in the wheat market, although slightly declining, remains high even though Canada sells practically all its wheat on strictly commercial terms.

To achieve those impressive results, Canada did not deviate much from the line adopted at a time when tariff negotiations appeared to be the main -- if not the sole -- technique required to protect export interests. Canada did not enter into bilateral payment or trade agreements based on clearing techniques and it maintained its right to select its suppliers on the basis of commercial considerations. It did not resort often to subsidies, except for a few products. It did not sell much on concessional terms and the amount of food aid remained minimal. The Canadian government



organized the marketing of wheat in a practical manner and assisted exporters in carrying stocks. It drove a hard bargain with other governments when necessary and agreed to such schemes as the Minimum Import Price arrangements proposed by the British government, but generally the Canadian commercial policy was unbending and did not accept departures from what the Canadian government considered to be the basic principles of trade as easily as other exporting countries.

So far, this policy has been successful, as trade returns show. Other exporting countries, by adopting more flexible policies, may have obtained slightly better results, but, in terms of hard cash, the difference is probably negligible. Even with Communist countries, exports have developed very satisfactorily, although terms of sale were strictly commercial. A policy which relies on the quality of the products exported and on the salesmanship of the exporting agencies has thus been fully vindicated. But, to a certain extent also, Canada has been lucky; exports to the United States have been less vulnerable than those of other exporting countries; the economic position of Canada's major trading partners was particularly favourable during the post-war period; unexpected shortages in the Communist countries were a welcome windfall, and decline in wheat consumption in industrial countries was retarded by population increases.

Because Canadian policies have been successful so far, it would not be wise to conclude that they would remain so in the near future and it may be in order to examine the prospects of Canadian exports in the light of the probable impact of the factors described in previous sections. This examination will be limited to the effects of governmental policies and will not deal with other factors which are not directly influenced by the action of

governments. The next section will review the problems affecting a number of farm exports other than wheat, and the following one will be devoted to wheat which represents by itself more than half of Canadian agricultural exports.

VII - THE POSSIBLE IMPACT OF GOVERNMENTAL POLICIES ON THE DEVELOPMENT OF CANADIAN EXPORTS OF FARM PRODUCTS (OTHER THAN WHEAT)

A number of Canadian farm exports are practically immune from government policies, because it is unlikely that serious obstacles would hamper their flow, or because the geographical proximity of the main outlet, the United States, and the division of labour which has been gradually established between the two countries, ensure a continuation of the present trade flows without any real danger of government interference.

(a) Export products unlikely to be affected by governmental policies

A number of specialty exports will continue to be unhampered by protective measures: this appears to be the case for forage crop seeds, seed wheat, seed potatoes, maple products, hides and skins, undressed fur skins, hatching eggs, chicks, and purebred cattle. Subsidies competition is unlikely to become a major factor for these products. Malt which is bought by brewers in the United States, Jamaica, the Philippines and some Latin American countries, and export of feeder cattle to the United States, appear to be also fairly immune. This is also true of some oilseeds such as linseed and rape-seed which is in great demand in Japan where the meal is used as a fertilizer for the growing of tobacco.

In the case of milling residues, hay, meat and fish meal, biscuits and cakes, eggs and cut flowers, which are shipped mainly to the United States, geographical proximity will no doubt provide an effective safeguard.

(b) Exports likely to be affected by support-price policies

Apart from wheat, to which the next section will be devoted, problems may crop up in connection with dairy products, fresh fruit and vegetables, meat and coarse grains.

Dairy products Butter can be ignored, as Canada is not a regular exporter. Cheese is exported mainly to the United Kingdom. The British government reduced the support price for milk in 1964 and it would seem that the significant market erosion which took place in recent years has now come to a stop.

Condensed and powdered milk exports are subsidized directly or indirectly in the United States, the United Kingdom and the EEC, and other suppliers such as Canada. The EEC regulations authorize export subsidies to cover the difference between world prices and higher domestic prices, as well as transport cost. In the United States, a new procedure replaced in 1964 the fixed subsidy by a method under which the exporter quotes the subsidy required to export specific quantities; he receives certificates which can be exchanged against surplus commodities. The United States, by far the largest exporter of milk powder, doubled its total exports during the last five years.

Fresh fruit and vegetables The main problem may arise from the EEC regulations. The EEC is not a major market for Canadian apples; however, exports to that market may be made more difficult by the reference prices system. When import prices are below the levels thus determined, imports may be suspended or a countervailing charge may be imposed. The reference prices will be raised for next season.

The final regulations may also provide a system of export subsidies, partly financed by the FEOGA (Community Agricultural Fund). This might stimulate export of Italian and French apples to the United Kingdom, a significant market for Canada. Italy exports already as much as Canada to the United Kingdom, and France is gradually becoming a major exporter.

Meat Main destinations of Canadian exports are the United States (for beef of manufacturing quality and high-quality pork cuts), Western Europe (mainly the United Kingdom), the West Indies (pickled beef), Guam and Japan. Support-price policies are in force in many of these countries. However, because of growing demand and of remunerative prices, meat may become a dynamic market for Canada. In many countries where demand increases, domestic supply cannot develop rapidly enough and imports are expanding in spite of market regulations.

There are, however, some developments which may be adverse. The United States abandoned last year its liberal import policy. A contingency quota was established for beef, veal, mutton and goat meat, which freezes imports at the 1959-63 levels with some possible adjustments in line with changes in domestic production. As imports in 1965 are not likely to exceed the contingency quota by at least 10 per cent, imports will probably continue to be unrestricted. The United Kingdom is also contemplating the introduction of a new regime for imports, which may be modelled on the market-sharing arrangement introduced for bacon. The EEC regulations, while doing away in principle with quantitative restrictions and relying on customs duties as a first line of defence, contemplates the imposition of levies, if import prices as determined by the EEC Commission are lower than the "guide prices" (prix d'orientation), and if domestic prices fall below a certain

level. In present circumstances, customs duties ranging from 20 per cent to 26 per cent (in the Common External Tariff) are the only means of protection, and a number of facilities have been granted for the import of frozen beef and meat of manufacturing quality (tariff quotas at lower rates of duty and a temporary suspension of duty in the case of Italy).

So far as terms of competition are concerned, the only recent development is the authority to export meat under P.L. 480. So far, these concessional sales by the United States have been small (18,000 tons) and went to countries which are not buying meat from Canada.

Coarse grains Exports of barley, oats and rye bring to Canada about \$50 million a year, not much more than before the war, and about one third of what Canada earned in the early fifties. Main destinations for barley are the United States and the United Kingdom, with small shipments to Japan, Korea and Mainland China. Western Europe buys most of the rye and a large part of the oats, while the United States is also a significant market.

In most of these markets, there is local production which is protected by support-price policies. In the United States and in the United Kingdom, the policy is to check production by means of acreage allotments in the United States and by the introduction of "standard quantity" limitations and of target indicator prices in the United Kingdom. The system will be described in greater detail in the following section. So far as imports are concerned, a new method of minimum import prices was introduced in July 1964 with the consent of the exporting countries, including Canada, which provides for a "country levy" if import prices fall below the minimum (presently £20 per ton for barley).



In the case of the EEC, the common policy aims at a reduction in wheat production, accompanied by an expansion of coarse grains. The common target prices which should come into operation in July 1967 (U.S. \$91.25 per metric ton for barley and \$93.75 for rye) are significantly higher than present support prices in all states (with the exception of Germany); they are roughly 50 per cent above the level of import prices. The system of variable levies and the built-in preference, although small, are likely to stimulate market erosion to the detriment of outside suppliers.

(c) Exports likely to be affected by other policies

Apart from the possible impact of support-price policies, exports of tobacco, oilseeds and vegetable oil residues may be affected by policies which would encourage production in less-developed countries, and more particularly by preferential arrangements in favour of these countries. Exports of wheat flour might be losing momentum if some of the present purchasers set up flour mills in accordance with development policies.

Tobacco Canadian exports of unmanufactured tobacco are developing rapidly. The main purchaser is the United Kingdom which buys from Canada about as much as from the United States and more than from Rhodesia and India. Canada also exports tobacco, to the EEC (about \$2 million) and to Scandinavian countries (less than \$1 million). In addition, Australia and Jamaica purchase small amounts.

Competition comes from the United States where prices are supported but the acreage controlled; concessional sales under P.L. 480 account for 10 per cent of the total exports and do not seem to interfere with Canadian exports. The EEC policy may affect imports as well as exports. Italy and Greece enjoy lower tariff rates than outside suppliers (at present, these



rates represent 40 per cent of the original levels); Turkey obtains the same tariff advantage for a quota amounting to 12,500 tons in 1965. The Greek government is canvassing for the introduction of a system of export subsidies which might increase present pressures on an oversupplied world market. Although oriental tobacco does not compete with Canadian types, it is understood that more competitive varieties could be produced in Greece, and possibly also in Turkey. A number of less-developed countries are expanding their tobacco production, nullifying the efforts made or contemplated by major producers, including Rhodesia, to check an excessive expansion of supply. If that policy were encouraged by the granting of special facilities, in the form of preferences or other devices, to less-developed producing countries, Canadian exports might be injured. The tobacco market is price-sensitive, as was shown in 1964 by the 40 per cent increase in the EEC purchases of Rhodesian tobacco as a response to a significant price fall.

Oilseeds and oil residues Apart from linseed and rape-seed, Canada exports -- mainly to the United Kingdom -- soya beans (and oil) and oil residues. These exports might be adversely affected if supplies from less-developed countries were to enjoy special facilities or a preferential treatment.

Wheat flour Canada exports a part of its wheat in the form of flour (about 10 per cent in value terms). Except for the United Kingdom, which takes about 40 per cent of these exports, wheat flour is shipped to less-developed countries in Latin America, the West Indies, West Africa (mainly Ghana) and Asia (Hong Kong, Malaysia and Thailand). Sooner or later, flour mills will be established in these countries. To ensure that the local millers continue to buy their wheat from Canada and not from other sources,

a participation of Canadian capital in the setting-up of a milling industry might be encouraged by Canadian authorities.

(d) Possible lines of action

In most of the cases mentioned earlier, action along the lines of tariff negotiations would no longer be an effective technique. Tariff reductions in the form of increases in tariff quotas under which imports are allowed at a bound rate and without the collection of additional levies would still be valuable and could be negotiated with the EEC in the case of meat. In many other cases where tariffs are completely discarded or have no real effectiveness concentration on tariff negotiations would be a waste of time.

Pressing for an early elimination of quotas and other restrictions would not be meaningful either. A more practical objective would be to ask for a quantitative guarantee of access. This implies a commitment to allow the same amount of import as during recent years and to give exporters a share in any growth of local consumption. This could be obtained by earmarking a specific percentage of that growth for imports, by reserving a definite share of total consumption to outside supplies, or by introducing a scheme by which competition with local producers would be unrestricted for additional demand. As regards competition with other suppliers, the technique might be that of global quotas, which do not limit healthy emulation, or that of country allocations, based on past performance. The trend is rather in favour of the second system.

To conclude such agreements, the importing government should be prepared to limit domestic production or, at least, the amount of the crop which would be entitled to guaranteed prices. A number of governments are

still reluctant to accept such commitments. In the case of Germany, for instance, such a proposal would be violently opposed by farmers' associations. In the case of the United States, the principle of market-sharing might be applied on a unilateral basis, as evidenced in the 1964 Meat Import Law, but it might be politically difficult for the Administration to accept it as an international obligation. On the other hand, the United Kingdom referred to the principle in the arrangements concerning bacon and cereals; although there is no specific commitment, these arrangements contain a clear declaration of intent, and the United Kingdom undertook to take corrective measures if the basic assumptions did not materialize. Finally, in the case of the EEC, there is so far no inclination to accept any quantitative limitation of their production policies under an international agreement.

In present circumstances, any meaningful negotiation on agricultural products coming under support-price policies requires some firm commitment on at least two elements; the level of the support price, a maximum level of production to which the support price is applied, and a minimum quantitative guarantee of access to the importing market. Commitments regarding any combination of two of these elements would give positive results, but anything short of that would be more or less illusory. Because support-price policies also influence terms of competition on world markets, it would be preferable for such commitments to be embodied in a multilateral agreement with a wide participation of exporting and importing countries; if that does not prove practical, it might be necessary to conclude separate arrangements with importing countries; in that case, it would be advisable to negotiate an arrangement to which the importing country and its main suppliers would be parties rather than a series of bilateral deals which might lead to discrimination and distort the trade channels.

With respect to other policies which pose different problems, it would also be appropriate to resort to multilateral discussions and arrangements. In a few cases, it might be necessary for exporting countries to co-ordinate their production and marketing policies within the framework of a commodity agreement; in that case, importing countries should be associated in the discussions, so as to avoid any suspicion of cartelization.

#### VIII - THE WHEAT PROBLEM

Wheat represents by far the most important agricultural export product for Canada; it accounts for more than half of the agricultural export earnings and brings in nearly \$1 billion each year. To maintain its present position as wheat exporter, Canada should continue to provide one fourth of world exports.

Some of these wheat exports are not vulnerable to policy decisions abroad. This applies to seed wheat, which is sold to the United States and to a range of other countries, such as India, Saudi Arabia and Finland. It applies also, to a certain extent, to quality wheat, such as durum. The main purchaser of durum wheat is the EEC, while other West European countries, such as Switzerland, the United Kingdom, Austria and Finland, also buy regularly from Canada. In 1964, East European countries (the U.S.S.R. and Poland) received a little more durum wheat than the EEC.

The EEC price policy encourages production of durum wheat whose target price was established at U.S. \$25 per metric ton, against \$106.25 for soft wheat.<sup>1/</sup> This differential may stimulate production in France and other

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<sup>1/</sup> The term "soft wheat" as used in this paper refers to all wheat other than durum.

EEC countries and displace some of Canadian exports. Even if this policy does not reduce the EEC demand for imports of quality wheat which is essential for milling purposes and other production lines, one should remember that durum wheat represents only one quarter of total EEC purchases of Canadian wheat and that soft wheat remains the main source of earnings.

Until recently, the main export destinations of Canadian soft wheat were industrial countries (Western Europe, Japan and the United States) which absorbed about \$400 million of Canadian wheat in recent years; less-developed countries bought only from \$40 to \$80 million (food aid included). Over and above these amounts which are fairly constant, Canada was recently able to export to Mainland China and to East European countries substantial amounts which rose from \$170 million in 1962 to \$550 million in 1964, thanks to increased purchases from the U.S.S.R.

Exports to China and Eastern Europe depend on two factors: the level of domestic supply, and the political decisions of the importing countries. So far as the U.S.S.R. is concerned, estimates of future supplies vary greatly; some believe that that country can be self-sufficient by 1970, while others think that imports will continue for some time at levels comparable to those of recent years. As regards the U.S.S.R. import policy, there is no doubt that imports will not be allowed to compete with domestic supply and will remain strictly complementary. Some East European countries, such as Poland, may continue to be regular customers; others purchased wheat occasionally. If Mainland China continues to export rice and to buy other cereals for domestic consumption, imports will continue for some time.



All exporting countries are competing for that trade, with the exception of the United States with respect to China. It does not seem that political considerations nor payment conditions play a part in the selection of suppliers to the U.S.S.R. The U.S.S.R. pays cash and in convertible currencies and contracts seem to be based strictly on commercial terms. In the case of other customers, export credit policies do come into play; a limit of 18 months seems to be adopted generally. The only advantage which some suppliers may have is recourse to bilateral payment arrangements which might enable them to get the contract because the importing country would prefer payment in kind to payment in cash, even on favourable credit terms.

As regards the Japanese market, imports continue to increase in spite of the support given to domestic producers. Canada is protected against discrimination by a provision of its bilateral agreement with Japan under which imports of wheat (and barley) are conducted on the basis of free competition. As bread in Japan has a high protein content, millers give their preference to high-quality wheat. Japan imports 40 per cent to 50 per cent of its wheat from Canada.

The United Kingdom remains the largest single importer of Canadian wheat, purchasing more than the EEC countries. More than half of the wheat imported by the United Kingdom comes from Canada. Domestic producers are protected by deficiency payments which limit the market for exporters. The new arrangements introduced on 1 July 1964 by the United Kingdom and to which Canada is a party should maintain import opportunities at their present level of 9 million tons for all cereals -- a little less than half the total supply -- and even allow for a slight increase.



The main features of these arrangements are, on the import side, a system of minimum import prices which exporting countries agree to observe; if prices quoted are below the minimum, a country levy is collected.<sup>1/</sup> On the other hand, the domestic producers receive the guaranteed price at the full rate of £26.10.0 per long ton (as compared with a minimum import price of £22.10.0) if the "standard quantity" of 3.3 million long tons is not exceeded. If the crop is larger, the price deficiency is reduced proportionately to the amount in excess; moreover, the payment is further reduced if the average market price falls under a target indicator price, which is £20 for 1964-65.

The most delicate problems are encountered in connection with the EEC. The common policy adopted in 1962 and supplemented by the decision of 15 December 1964 replaces former protective devices by a system of variable levies which brings the price of imports slightly above the prices obtaining in the Community; a built-in preference of about 1 per cent enables Community exporters to get into the deficit markets before outside suppliers have a chance. Common target prices to be applied as from 1 July 1967 are fixed at U.S. \$106.25 for soft wheat and \$125 for durum. For soft wheat, the target price is lower than the German and Italian prices, but slightly higher than the French and Netherlands prices for 1964. It is likely that the price increase will somewhat stimulate production in France, a development which is not considered as economically favourable by the French government. The built-in preference, although moderate, will probably lead to regional self-sufficiency unless some satisfactory agreement on terms of access is negotiated with the EEC. For Canada, the amounts involved are substantial: nearly

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<sup>1/</sup> In the case of nonparticipating countries, a "general levy" is imposed on their exports.

40 per cent of EEC wheat imports come from Canada, and they represent about \$100 million, excluding hard wheat. Moreover, exports to third countries are subsidized partly by the FEOGA which will be financed to a certain extent by levies collected on imports.

Apart from the industrial countries and the Communist states, Canada exports little wheat to the rest of the world, much less than \$100 million worth. The main customers are Venezuela, South Africa, and the Philippines. A number of other countries in Latin America and Asia regularly purchase small amounts, and some consignments come under the Colombo Plan and other forms of food aid. Most of these purchasing countries have a sound currency and no real balance-of-payments problems. Canada remains a supplier of wheat to rich and reasonably well-to-do nations. This limitation of export outlets would make it difficult to expect a substantial expansion of wheat exports if the present pattern of trade is maintained.

In spite of the favourable trends in Canadian wheat exports after the war, Canada still carried a stock of 12 million tons in July 1963, a figure which is not much more comfortable than that of the U.S. stocks which amounted to 24.5 million at the same time, for an export trade which was about twice as high as that of Canada.

All these marketing problems have led governments to review the international arrangements which have been applied so far. The GATT rules will have to be made more effective and probably amended, and the International Wheat Agreement to which Canada is a party has to be revised or replaced by a different type of arrangement. The multilateral contract which forms the basis of the Wheat Agreement gives a reasonable guarantee that sales of wheat up to a certain level will be made at prices moving within an

agreed range. The system worked fairly well, mainly because supply was regulated by the major exporting countries whose marketing agencies held back the amounts which might have depressed prices. But it offered no real protection against market erosion or diversion of demand to noncommercial channels. In the case of wheat, these noncommercial sales represent about one third of exports, and it is not certain that these sales have not affected the commercial market. Although wheat stocks have declined by 16 per cent in 1964 (while stocks of coarse grains increased substantially), it is expected that concessional sales will again increase their share of the market. Another major defect of the Wheat Agreement is that it does not extend to coarse grains.

The Kennedy Round precipitated an international discussion of the wheat problems. The United States is determined to obtain concessions from the EEC on agricultural products, and more particularly on wheat. As the EEC was not prepared to accept for these products the ordinary negotiating procedures which, in any case, would have been ineffective, and insisted that its offers should be part and parcel of a world-wide agreement on cereals, the other negotiating countries, which include practically all major countries interested in wheat trade, had to accept the EEC proposals as a basis for discussion, even though with considerable reluctance.

Apart from the practical advantage of regulating the terms of access to the EEC markets, a broader arrangement such as contemplated at Geneva should provide practical and workable solutions to a number of other commercial policy problems. First of all, the determination and, if possible, the binding of the "montant de soutien" (i.e., protection under all its forms) might stop the persistent erosion of import markets. Secondly, the

establishment of an international reference price would provide a useful yardstick and might lead to a gradual elimination of such direct and indirect subsidies as would depress prices below that level and resort to import levies would penalize dumping practices. All these provisions would contribute to the restoration of normal trading conditions on world markets.

Another section of that arrangement might deal with stocks and, possibly, tend to check an accumulation of such stocks in excess of an agreed international ceiling. Directly or indirectly, pressure could be brought to bear on national production policies. Finally, the disposal of stocks, instead of being left to the discretion of individual countries, would be organized or, at least, supervised by a central authority. The financing of such disposal might also be organized on an international basis.

Other points could also be covered by such an arrangement, such as the price at which less-developed countries could expect to export their cereals; one might, for instance, give them a guarantee that their sales would be paid at the international reference price in all cases. The inclusion of coarse grains is also a valuable addition to the Wheat Agreement; this might complicate the negotiation, as governments may hold conflicting views regarding the optimum allocation of acreage and resources to various cereals. But these practical difficulties should be overcome if governments are prepared to introduce some flexibility in the pricing arrangement.

An agreement of this nature is very attractive for all concerned provided it contains adequate opportunities of access for efficient producers. The EEC is not offering so far any guarantee that imports will not be displaced by domestic suppliers; the binding of the common target prices for cereals at the levels agreed upon in December 1964 does not appear to provide

a sufficient protection. Some additional assurance would have to be obtained in the course of negotiations concerning either the level of Community production or the minimum quantities whose imports would be allowed. Many techniques can be contemplated to achieve this result: a percentage of consumption may be reserved for imports; a guarantee may be given that imports would not go below the level reached in a representative period and that part of increased consumption would accrue to import; a market-sharing arrangement may be hammered out; tariff quotas may be established at a bound rate of duty and free of additional levies; or the importing country may undertake to introduce corrective measures if the share of imports decline below a certain level. Technical devices are easy to find, provided the governments have the political will to come to terms.

For a country like Canada, a world-wide arrangement on cereals would be advantageous, provided assurances can be obtained on terms of access to its main export markets. Commitments regarding support prices (or the "montant de soutien"), as well as export subsidies, would not be onerous, the more so as the international reference price will no doubt be near the U.S. levels. Canada already accepted to observe minimum import prices in the case of the United Kingdom, and the application of levies if its exporters were quoting prices under the agreed level. So far as concessional sales are concerned, such an agreement would be a distinct improvement in a sector which has preoccupied Canadian exporters for a long time. A multi-lateral organization of stock disposal might also facilitate an orderly depletion of onerous surpluses and would enable Canada to take a greater part in exports to less-developed countries which are bound to increase rapidly in the future.



Indeed, such an arrangement might offer an opportunity of broadening the export markets of Canada which are limited so far to the so-called diet-adequate countries. These countries, which absorbed 80 per cent of agricultural imports, are estimated to account for 76 per cent of these imports by 1970. But consumption of wheat in these countries is hardly expanding; their per capita consumption is declining and their population increase is moderate. On the other hand, the rest of the world is increasing in numbers and, under the stimulus of economic development, their per capita demand for foodstuffs -- which, for a number of years to come, means essentially starchy foods such as cereals -- will grow rapidly. To meet such expanded demand, imports of these countries should increase by nearly 150 per cent by 1970.

As it is unlikely that such demand will be entirely met by sales on commercial terms, governments, for political and moral reasons, will develop their efforts to channel extra food to these countries on concessional terms. As the experience of Canada after the war demonstrated, relief sales may turn out to be a profitable operation: it creates goodwill and paves the way to commercial sales when the financial situation of the recipient country improves. Other wheat exporting countries are becoming more and more attracted by a multinational scheme of stock disposal for cereals. Although such proposal may prove to be a long-term speculation, it gives added interest to the negotiations now proceeding in Geneva.

#### IX - CONCLUSIONS

During the post-war period, significant changes took place in the conditions under which commercial policy operates. The widespread application of agricultural policies which made it impossible for many governments



to live up to their international commitments and to discard nontariff measures for the protection of their farmers destroyed, in many instances, the value of concessions negotiated within the framework of the post-war multilateral system of trading. The damage did not spread to all markets and there are still sectors of agricultural trade where tariffs remain the only effective obstacle to imports; but, for a number of staple products of the temperate zone, trade is severely hampered by the effects of such domestic policies.

Although the defects of support-price policies are now better known and governments try to limit their financial liabilities under these policies or have second thoughts about some features of these schemes,<sup>1/</sup> exporting countries can hardly adopt a policy of "wait and see". It will, in any case, take some time before governments abandon their present policies or amend them in such a way as to enable them to rely on tariff protection for many agricultural products. Direct income support measures unrelated to production are psychologically unpopular and financially costly. Structural reforms of production which would enable producers to meet competition from efficient producers abroad would be drastic and would take a long time; moreover, in the short run, these reforms may create more difficulties than they solve.

Some change in commercial policy methods is therefore required, at least for a period of transition. The major aim of such a policy would be to obtain reasonable terms of access and fair terms of competition, rather

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<sup>1/</sup> A French official report recently stressed the danger of establishing unduly high target prices for cereals whose production is already excessive.

than to impose the specific techniques which importing countries should apply. The most appropriate approach would be a multilateral discussion leading, if possible, to the conclusion of world-wide agreements on major commodities. These agreements should cover all the aspects of trade, and include specific commitments on domestic policies on production and prices. If that is not possible, one should try to organize the access to the market of individual importing countries by means of an arrangement between each importing country and its suppliers. These arrangements should be preferred to bilateral agreement or to unilateral marketing regulations imposed by the importing country.

The conclusion of such arrangements which are essential for cereals but which would be useful also for other products such as dairy products, meat, vegetable oils and seeds and tobacco, would greatly facilitate the solution of future Canadian export problems. There is, however, an aspect of the situation which might require some further attention. It has already been pointed out that Canada depends exclusively on the markets of diet-adequate countries for its exports of foodstuffs. After the war, Canada succeeded in reducing its dependence on a handful of markets and, in particular, on two major ones. It might be worth considering whether another effort at diversification is not timely. The potential demand for Canadian wheat is considerable; a number of less-developed countries would be prepared to buy more wheat if they could afford to do so, and there seems no reason why this wheat should not be purchased in Canada. In the same way as Western Europe and Japan imported more agricultural products from Canada when they sold more goods to that country, it is likely that many less-developed countries would buy more from Canada if they could earn more Canadian dollars.

There are a number of products which Canada buys at present from industrial countries and which it could -- in theory at least -- buy from countries which might become regular purchasers of Canadian farm products. Looking at the list of Canadian imports, it would seem that products like meat, eggs, rice, maize, fresh fruit (other than tropical), dried and preserved fruit, tobacco, hides and skins, oil seeds and cotton, which are purchased mainly or exclusively in the United States or in other industrial countries, could be found in less-developed countries; in certain cases also, some tropical products could be bought directly from the producing country instead of from a trader in a developed country.

There are, of course, a number of practical obstacles which should be overcome before traditional sources of supply can be replaced by new ones. Exporters in less-developed countries are not as efficient as traders in industrial countries. Quality control, regularity of supply, transport and other facilities, may be more difficult to organize. Personal contacts are so important in trade that it would take some time to change partners even when these practical problems are satisfactorily solved. But the government might help in promoting trade both ways with less-developed countries, which rapidly may become major trading partners for a country like Canada, which will continue for some time to depend on the export of wheat and other essential foodstuffs.

TECHNIQUES FOR THE EXPANSION OF AGRICULTURAL EXPORTS:  
NON-COMMERCIAL ARRANGEMENTS

by

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I- DEVELOPMENT OF NON-COMMERCIAL ARRANGEMENTS

The subject for discussion in this paper involves the role of non-commercial type sales including special bi-lateral and multi-lateral arrangements in the expansion of agricultural exports. An attempt has been made to place in perspective the role of such exports, in terms of aid to developing countries and as a tool for market development for countries such as Canada.

The first problem is to define what is meant by "non-commercial" versus "commercial" arrangements. An immediate impulse is to define non-commercial arrangements solely in terms of programs such as the United States Public Law 480, the Colombo Plan, in which Canada participates, or the Multilateral World Food Program of the Food and Agricultural Organization. These programs have covered the major agricultural exports classified as non-commercial. Such a definition, however, constitutes a narrow interpretation of non-commercial sales.

Based on a classical definition of commercial sales, as unhindered trade by private interests, there has been a long history of deviations involving many different types of programs. The disruption of markets in the 1930's and the move to protectionism by the industrially developed countries, led to numerous devices to improve the trading position of agriculture. Many countries adopted internal policies of direct aid to agriculture involving subsidies and price supports which distorted trade patterns. The

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1/ The author wishes to express appreciation to Dr. J.S. Hillman, University of Arizona, for his constructive criticism and assistance in gathering material, also, Mr. Miguel Castro, FAO Representative in Fortaleza, Brazil.

United States, for example, began programs involving export subsidies and government financing of surplus stocks.

During the years of World War II, a considerable part of trade in agricultural products was on a barter or loan basis. In the post war years, the United States entered into extensive programs of aid to Europe and Japan involving loans or gifts for development purposes. From 1946 through 1954, the market value of agricultural exports, under special U.S. government programs exceeded \$11 billion. <sup>1/</sup>

During the 1950's, trade in agricultural products began to face new difficulties. Technological improvements and internal price policies resulted in expansion of production which forced changes in both production and trade patterns. Surpluses developed in certain commodities, especially in North America. European post war recovery led to new policies of protection for a revived domestic agriculture. While surpluses have not constituted a significant problem in Europe, protectionism and increased competition in world markets have added to the problem in surplus producing areas. World population has been expanding at unprecedented rates but the major areas of the world, with potential for increased consumption, do not have the means to enter normal trade channels to make purchases. As a result pressures have developed to find means of distributing surpluses outside of traditionally normal commercial trade channels.

In 1954, the United States established the means for substantial concessional sales and grants of agricultural commodities under Public Law 480. For the 10-year period 1954 - 64, the U.S. exports of agricultural products under special government programs exceeded \$14 billion or about one-third of

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<sup>1/</sup> Frank D. Barlow and Susan A. Libbin, The Role of Agricultural Commodity Assistance in International Aid Programs, ERS Foreign 118, USDA, Wash., 1965, p. 14.

the total exports for the period. <sup>1/</sup> About \$10 billion of this was food shipments. Between 1952 and 1963, Canada, Australia, France and East Germany supplied \$251 million of food aid for emergencies or development. Canada supplied 89 percent of this total. <sup>2/</sup> Since 1963, many countries have been involved in a World Food Program for distribution of agricultural commodities on a multilateral basis.

Since World War II, governments of almost all trading countries have been involved in various forms of activities to stimulate or protect export trade in addition to the major programs mentioned above. These programs include subsidies of various kinds, pooling arrangements and government to government negotiations. Some countries have manipulated and used multiple exchange rates. International commodity agreements are used to manipulate both prices and quantities.

It becomes evident that normal commercial trade, if defined as trade between private commercial interests, unaided by acts of government, probably exists only in relatively small segments of agricultural trade, if at all. However, it is only in the past twenty years, since World War II, that major programs involving large concessional sales, as well as subsidies, have developed. Two factors have contributed most to the development of these programs, (1) the lack of foreign exchange on the part of the developing countries needing food and other imports, and (2) the price policies and technological developments in producing countries leading to surplus production.

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<sup>1/</sup> U.S. Congress, House, Food for Peace: 1964 Annual Report on Public Law 480, House Document No. 130-39/1, Wash., 1965, p. 14.

<sup>2/</sup> Frank D. Barlow and Susan A. Libbin, op.cit., pp. 14-15.



It is with the programs of recent years involving concessional sales of agricultural products for surplus disposal and/or economic development that this paper is concerned. An attempt will be made to assess their importance as aids for economic development and commercial market expansion. In doing this, a review will be made of current food export programs involving concessional sales and grants, as well as world food needs and the role of trade in meeting those needs. An examination and appraisal will be made of the effects of food aid as a tool for economic development as well as for commercial market expansion.

## II- PROGRAMS OF MAJOR TRADING COUNTRIES

### Surplus Disposal or Concessional Sales by the United States

The United States has been the major contributor involved in non-commercial sales and/or gifts of agricultural products. Since 1954, the Agricultural Trade Development and Assistance Act has provided the main vehicle of the U.S. for both surplus disposal and food aid to developing countries. Between 1955 and 1964, a total of \$14.9 billion worth of agricultural commodities, based on export market value, were shipped from the U.S. under government financed programs. Nearly 90 percent of these were shipped under PL 480, with the rest moving under similar provisions of the Mutual Security Program. Approximately one-third of all farm product exports during this period were shipped under government financed programs. In 1964, Public Law 480 exports amounted to approximately \$1.7 billion or about 27<sup>1/</sup> percent of total agricultural exports. Major commodities moving under the programs have been wheat, corn, milled rice, cotton and edible vegetable oils.

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<sup>1/</sup> U.S. Congress, House, Food for Peace: 1964 Annual Report, p. 15.

Table I  
Major Agricultural Commodity Exports,  
Commercial and PL 480, 1964

Program	Wheat	Corn	Milled Rice	Cotton	Edible Vegetable Oils
	Million Bushels	Million Bushels	Million Cwt.	Thousand Bales	Million Pounds
Public Law 480	563	55	12	1,173	963
Commercial Sales	<u>289</u>	<u>441</u>	<u>17</u>	<u>4,068</u>	<u>3,578</u>
Total Exports	<u>852</u>	<u>496</u>	<u>29</u>	<u>5,241</u>	<u>4,577</u>
Public Law 480 Exports as percent of Total	66	11	41	22	21

Source: U.S. Congress, House, Food for Peace, 1964 Annual Report on Public Law 480, 1965, p. 15

Public Law 480 contains four major titles and numerous provisions. Title I, by far the most important, provides for exports of quantities of surplus agricultural commodities to foreign nations for payment in their own currencies. This provision was intended as an aid to countries short of dollars or lacking ability to convert currencies. The accumulated currencies have limited uses such as the payment of U.S. obligations, diplomatic expenses and agricultural market development activities. Funds may be used also for economic development and for educational and scientific projects within the receiving countries. Title II is a provision for government - to-government programs for relief in time of flood, crop failures, earthquake or other natural disaster. This program also authorizes the use of surplus commodities for economic development projects. Under Title III, surplus foods are donated to nonprofit voluntary agencies, which distribute them to

people in need through summer camps, refugee centers, school lunches, family feeding and other programs. A second part of Title III allows for barter of surpluses for strategic materials, goods or equipment required for U.S. national stockpiles. Title IV authorizes the export of farm products in exchange for long term, low interest notes. This Title is intended largely to assist in development programs and provides for agreements involving deliveries for periods up to ten years and credit up to twenty years.

Under Title I, "Four hundred and fourteen agreements or supplements to agreements, with an export market value of \$10.6 billion - - - ", <sup>1/</sup> had been entered with 50 countries between 1954 and the end of 1964. This amounted to about 56 percent of all special agricultural sales. Export market value of Title II shipments, however, was only \$837 million for the same period. <sup>2/</sup> Title II shipments were largely aid for drought, flood and hurricane relief. Also included were programs for unemployment relief, economic development, refugee relief and child feeding. About 60 percent of all Title II commodities have been shipped to Africa, or the Near East-South Asia, with Tunisia, Algeria, Morocco and Pakistan being the largest recipients. In 1964, it was estimated that 1.8 million workers and their families in 23 countries, were receiving a supplementary wage of food for their work and various self-help projects.

<sup>1/</sup> U.S. Congress, House, Food for Peace Annual Report 1964, p. 19

<sup>2/</sup> Based on the cost to the U.S. Commodity Credit Corporation, the values are much higher than reported here. Total CCC cost of the programs under PL 480 to the end of 1964 is reported at \$22.9 billion. Title I agreements alone are valued at \$14.7 billion. These values, however, contain cost elements associated with U.S. support programs including producer payments substantially above indicated international market prices as well as storage costs.

Under Title III, a total of \$3.3 billion worth of farm products were shipped by the end of 1964. About one-half was bartered for strategic and other materials while the remainder was used for domestic and foreign relief donations. Few shipments have been made under Title IV which was initiated in 1961-62.

There remains considerable argument about the real purpose behind PL 480 concessional sales. <sup>1/</sup> Initially, it appears fairly clear the programs were mainly for agricultural surplus disposal, with aid and development a secondary feature. More recent years have shown a marked tendency to focus more on the aid aspects of the program. Partly as a result of this change, significant shifts have taken place in the types of countries with which contracts are now signed. The World Food Budget, 1970, summarizes some of the program changes. <sup>2/</sup> Agricultural exports under government programs, to the diet-deficient subregions, increased over four times from \$272 million in fiscal 1955 to \$1,171 million in fiscal year 1963. During this time, programs with regions considered diet adequate declined by nearly 50 percent. Seven European countries received about 80 percent of all the concessional exports, to areas defined as diet adequate, between 1955 and 1963. Japan and Brazil received almost all of the rest. Shipments to Brazil have increased substantially and some increases have occurred to Eastern Europe, but for other countries in the group, including Japan, concessional sales have declined.

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<sup>1/</sup> For more details see E. L. Menzie and R. G. Crouch, Political Interests in Agricultural Export Surplus Disposal Through Public Law 480, Tech. Bull. 161, Univ. of Arizona, Agri. Exp. Stn., September, 1964.

<sup>2/</sup> USDA, World Food Budget 1970, pp. 79 - 80.

Of the diet deficit countries, the most significant program increases have occurred for India and North Africa. India, in 1963, was the largest recipient, receiving about 20 percent of the government financed sales. Asia received \$824.7 million or over 70 percent of commodity exports to the diet deficit countries and over 50 percent of total government financed agricultural sales. Africa was the next major recipient.

Numerous safeguards were included in the provision of PL 480 to try to prevent undue commercial market disturbances. For example, in Title I agreements, negotiators are required to consider the effects on prices and commercial trade, both for the U.S. and other countries. A guiding factor has been to ascertain that sales will be in excess of those normally sold in commercial channels and not as substitutes. Strict limitations have also been placed on the uses of blocked currencies resulting from sales.

"Nearly two-thirds of the local currency generated by Title I sales in the past 10 years has been set aside for economic development - - \$4.9 billion in loans, \$1.8 billion in grants. U.S. food has contributed to flood control, irrigation, reforestation projects; to improvement of railroads, highways, bridges, docks, communication; to construction of electric power facilities and; to building hospitals, clinics and schools ... important elements in development." <sup>1/</sup>

Some funds are set aside for international exchange programs for students. Funds provide travel and maintenance for both U.S. and foreign students abroad. Books have been translated, published and distributed, at low cost, for various levels of education. Assistance has been given to community centers, libraries and certain American schools. Over \$21 million was allocated as grants for agricultural research between July, 1959 and Dec.

<sup>1/</sup> U.S. Congress, House, Food for Peace, Twentieth Semiannual Report on Public Law 480, House Document No. 365-88/2, Wash. September, 1964, p. 11



1964. There are numerous other educational and research programs and small amounts have been used to pay expenses of trade fairs in various countries.

### The Colombo Plan

The Colombo Plan was organized in 1950 by Commonwealth countries to co-ordinate bilateral economic assistance programs of aid to South and South-East Asia.<sup>1/</sup> There have been six donor nations, including the United States and Japan. Total assistance under the plan through 1963 amounted to \$12.8 billion, of which food aid was \$3.4 billion or about 25 percent. The United States provided 89 percent of the total and 94 percent of the food aid. About 25 percent of the U.S. share of food aid was provided under PL 480. The remainder of the food aid was supplied by Canada and Australia with \$191 and \$23 million, respectively. Nearly one-half of Canada's contribution under the plan was in the form of food.

Canada shipped 1.6 million metric tons of wheat and flour between 1952 - 63. About one-half of Canada's shipments went to India, one-third to Pakistan and the remainder to six other of the 14 recipients in the program. Canadian sales have been on a concessional or grant basis. Recipients of aid under the Plan set aside local currency equivalent to the value of the food to help finance development projects as agreed to by the donor.

Australian food aid to 1962 amounted to \$21 million in wheat and flour to India, Ceylon, Pakistan and Cambodia. India and South Vietnam also received \$1 million of milk and Pakistan was shipped \$204,000 of barley.

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1/ Frank D. Barlow, Jr., and Susan A. Libbin, op. cit. pp. 14 - 15.

2/ Data received from the Canadian External Aid Office after completion of this report indicates that Canadian Food Aid under the Colombo Plan to March 31, 1965, was less than \$140 million. These figures indicate the contribution of food under the Plan was 26 per cent of Canada's total and that all food was given in the form of outright grants. The basis for the difference in the data from the two sources is unknown to the author. Since the difference has no significant effect on this report, no attempt has been made to resolve the issue.



### The World Food Program

The World Food Program was initiated in 1963 as a three year experiment in multilateral food aid under direction of the United Nations and FAO. Contributing countries agreed to supply \$100 million in cash, food and services. Food products are provided on a grant basis with cash or services donated to cover administrative costs. Pledges from 69 different countries had almost filled the initial objective as of February, 1965, with \$50 million made by the U.S., \$8 million by the Federal Republic of Germany and \$6.8 million by Canada. Over 73 percent of the contributions were commodities and 21 percent cash. While major contributions were from industrialized countries, many developing countries have also participated.

The Program has three main objectives: (1) to establish an orderly system of meeting emergency food needs; (2) to assist in pre-school feeding; (3) to implement pilot projects in social and economic development. About 25 percent of the resources were allocated for emergency needs and the establishment of food reserves.

As of November, 1964, seventeen emergencies had been alleviated by food aid, valued at \$7.8 million. Products involved were wheat and flour, corn, sorghum, dried skim milk, and vegetable oil. Other types of commodities are desired by the Program and requests for emergency aid have exceeded resources.

There were 193 requests for aid for economic and social development projects, mainly from countries in Asia and Africa. Ninety-four projects were approved and 51 were in operation. Over \$52 million in cash and commodities have been approved for economic and social development projects. Projects approved have involved land settlement, improving livestock productivity, labor intensive projects for rural development and welfare, school feeding projects for middle grade and technical training schemes, and other such as

aid to industrialization. <sup>1/</sup> Food can be used to pay part of workers' wages for capital formation projects such as irrigation, land reform, resettlement, and small industry development, as well as for community work in building roads, bridges, schools and houses. Foods will be provided for development of agricultural enterprises, introduction of new crops and stabilization of prices.

Commodity contributions have been largely items in surplus including cereals, dairy products and vegetable oils. The Program has been short of high protein foods and of cash to cover administrative costs. This has reduced the Program's flexibility.

#### Miscellaneous Food Aid or Disposal Programs

Canada, Australia, France and West Germany were the only countries involved in major food distribution for emergency, development or disposal, other than the U.S. Food aid from these countries totaled \$251 million from 1952 through 1963. In addition to Colombo Plan aid, Canada contributed \$33 million in wheat and flour to the United Nations Relief and Works Agency for Palestine, dairy products and pork to UNICEF and Care, as well as smaller items to other countries. <sup>2/</sup> In 1964-65, Canada allocated a total of \$12.5 million for bilateral aid with shipments of wheat and flour largely to India, Pakistan and Ceylon. This indicated a revival of aid to the pre 1961-62 levels, before Colombo Plan aid was reduced. In addition, in March, 1965, Canada made a grant to India of 100,000 tons of grain. These bilateral shipments are in addition to smaller contributions by Canada under the multi-lateral World Food Program. Canada reported to the FAO in April, 1965, that food aid would be increased to \$40 million per year in the years ahead.

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<sup>1/</sup> FAO, Committee on Commodity Problems, Report of the World Food Program by the Executive Director, February 25, 1965.

<sup>2/</sup> Frank D. Barlow Jr., and Susan A. Libbin, op. cit., p. 17.

Australia made a grant of 150,000 tons of wheat to India in February, 1965. As with the Canadian grant, this was intended to alleviate the wheat shortage in India, which developed as a result of the delay in U.S. shipments caused by the dock strike there. <sup>1/</sup>

Pakistan, in 1961, received \$2.6 million of surplus sugar from Germany, for rupees. Most of this amount was loaned back for development purposes. France had supplied small amounts of aid to Tunisia, Morocco and Mauritania.

Table II

Food Aid Supplied by Selected Countries,  
Fiscal Years 1952 - 63.

Country	Commodity and Program	Value
		<u>Millions dollars</u>
Canada	Colombo Plan Aid:	
	Regular program, wheat and flour, small amount of butter	81.0
	Special loans and grants, wheat flour	110.0
	Aid to International Relief Agencies:	
	Wheat and flour	15.0
	Dairy products	7.1
	Canned pork	9.1
	Relief to Chile, wheat and flour	1.0
	Total	<u>223.1</u>
Australia	Wheat and flour, dry milk and barley	<u>23.0</u>
West Germany	Sugar	<u>2.6</u>
France	Wheat and Barley	<u>1.9</u>
Total		250.6

Source: Frank D. Barlow, Jr., and Susan A. Libbin, The Role of Agricultural Commodity Assistance in International Aid Programs, U.S. Economic Research Service, Wash., March, 1965, p. 15.

<sup>1/</sup> FAO, Committee on Commodity Problems Report, April, 1965.

## Direct Subsidy Programs

Various producing countries have differing types of subsidies to aid exports. The United States has a provision to use a portion of import tariffs collected to subsidize agricultural exports. Between 1936 and 1961, a total of nearly \$311 million was made available from this source, largely to subsidize cotton and grain exports. This program has been small relative to other sources of subsidy which have been increasing over the past 15 years. U.S. wheat exports, under the International Wheat Agreement, have been subsidized with international approval. Export payments on wheat, in recent years, have ranged up to 90 cents per bushel. Export subsidy payments of up to  $8\frac{1}{2}$  cents a pound have been made on cotton, amounting to about 25 percent of the U.S. producer price and about one-third the international market price. In 1958-59, a total of 15 different products were listed as having varying rates of export subsidy, at a total cost of \$175.8 million. <sup>1/</sup>

In Canada "grain exports are greatly assisted by freight rate subsidies for moving grain to export locations." <sup>2/</sup> Other commodities receive indirect transportation subsidies. In addition, the Canadian Wheat Board has control over all grain marketing. It establishes marketing quotas and pooling arrangements for producers.

Some European Countries subsidize exports. Belgium has paid subsidies on butter and eggs; France, has paid subsidies on wheat exports; the Netherlands subsidizes exports of poultry, eggs, bacon, butter, beef, flax, milk

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<sup>1/</sup> Cited in E. L. Menzie, et al, Policy for United States Agricultural Export Surplus Disposal, Tech. Bull. 150, Univ. of Arizona Agri. Exp. Stn. August, 1962, p. 51.

<sup>2/</sup> U.S. Economic Research Service, Agricultural Policies of Foreign Governments, Agri. Handbook No. 132, USDA, Wash., March, 1964.

powder, condensed milk, cheese and some other milk products. Australia subsidizes exports of butter, cheese and ghee. Almost all countries have various types of internal subsidy systems for agriculture which affects the competitive position in the export markets. European Economic Community Countries, for example, may apply levies to imports. These levies can then be used by member countries to subsidize exports outside the community. Allowances may also be permitted for transport costs.

### III- ESTIMATED WORLD FOOD NEEDS AND THE ROLE OF TRADE

Studies have been made of estimated world food needs with projections for the future. These projections can be used to demonstrate the physical needs and the role of trade and food aid programs in filling the gap in deficit areas.

#### General Food Needs

"Two-thirds of the world's people live in countries with nutritionally inadequate national average diets. The deficit areas include all of Asia, except Japan and Israel, all but the southern tip of Africa, the northern part of South America, and almost all of Central America and the Caribbean.<sup>1/</sup>" These were the opening words in the USDA, World Food Budget 1970. Projections indicate there will be improvements in diet levels but the deficit will persist beyond 1970. Countries with inadequate diets are poor and living levels in general are low. Population growth rates are high so that efforts to improve the standard of living are often defeated.

For 1959-61 the USDA estimated diet deficit regions were at 300 calories per day per person below the nutritional standard. Protein consumption was less than two-thirds the level in diet adequate countries and fat consumption one-third below. Improvements are expected by 1970 but calorie gap

<sup>1/</sup> USDA, The World Food Budget 1970, p. iii



will still be equivalent to 54 million metric tons of grain. This amounts to 9.1 million tons of wheat, 33.3 million tons of rice and 11.3 million of other cereals. The deficit in animal protein will likely be equivalent to 6.5 million tons of nonfat dry milk. About 3.2 million tons of soygrits will be required to fill the pulse and other protein deficit and 3.1 million tons of vegetable oil will be needed to satisfy the fat deficit. Over half of the deficit will be in Communist Asia and costs of the total were projected to be \$6.8 billion.

The Third World Food Survey estimated that on the basis of United Nations population projections (considered conservative), world food supplies would need to be increased by more than one-third by 1975, to maintain recent standards.<sup>1/</sup> Given a reasonable improvement in nutrition through increased incomes and production, world food supplies would have to increase over 50 percent. For less developed areas supplies would have to rise by 80 percent and animal foods by 120 percent. Based on the year 2000, the study concludes world food supplies may need to be trebled to provide adequate nutritional diets.

#### Value of Food Imports to Developing Countries

The USDA, World Food Budget concluded that of the almost negligible improvement in per capita food consumption in recent years, much of it was derived from changes in trade patterns. The deficit areas of the world were projected to shift from net exporters of 2.8 million metric tons of food in pre World War II years, to net importers of 27 million tons by 1970. Even so, imports in the diet deficit areas are relatively small and in 1959-61, averaged only \$1.70 per capita versus \$11.50 in the diet adequate regions.

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<sup>1/</sup> FAO, Third World Food Survey, Freedom from Hunger Campaign, Basic Study No. 11, Rome, 1963, pp. 8 - 9.



Gross world imports of food in 1959-61 were estimated to be \$15.7 billion with projections of \$19.7 billion by 1970. Imports to diet deficit countries only amounted to \$3.2 billion.<sup>1/</sup> Food aid in recent years probably has not exceeded 10 to 15 percent of total world food imports representing a small part of world supplies. (Non-commercial sales of cereals for 1957-59 were estimated to be less than 2 percent of world consumption.)<sup>2/</sup> However, aid has represented about one-third of diet deficit country imports and has been relatively important to those countries.

Wheat has been the most important food commodity in world trade. Wheat exports averaged 41 million tons, or 19 percent of world production, for 1955-61. Diet deficit countries received 15.6 million tons of wheat or one-quarter of their supplies. World Food Budget projections indicate imports to diet-deficit areas will rise 53 percent above 1959-61 levels by 1970, whereas, other areas will remain relatively constant. Rice, an important commodity in world food diets, will remain relatively small in terms of trade. Corn, barley, sorghum grain, millet, rye and oats are also small in trade volume and imports are nearly all for livestock feed.

Most of the trade has occurred in the more highly developed countries. Projections, however, are for rapid growth in trade, with imports to Europe, Japan, West Central Africa and India rising sharply. Considerable increases in grain exports are anticipated but trade in livestock products is expected to remain largely within the diet adequate regions.

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<sup>1/</sup> USDA, World Food Budget 1970

<sup>2/</sup> United Nations, Towards a New Trade Policy for Development, Report by the Secretary-General, United Nations, New York, 1964, p. 53.

#### IV- ECONOMIC DEVELOPMENT AND THE ROLE OF FOOD

Programs, as described earlier, have been established to assist poorer countries to develop their own production potential and to meet growing world food deficits. It is not clear how effective or efficient such programs are in attaining these objectives, but an increasing amount of evidence is being collected.

In recent years much has been written in an attempt to clarify and understand how economic development takes place and the role of agriculture and food in bringing it about. In spite of the writings, there is no well defined theory of development to guide future programs. About the only sound conclusion reached by theorists has been that past experiences leading to development need not apply with high levels of expectation in other countries. Developed countries have not provided good laboratory results because of the variability in people, climates, natural resources, political situations, international conditions, states of technology and other factors. It is difficult to assign reliable values to various factors contributing to conditions for growth. It is largely for this reason that development programs in agriculture, including programs involving food distribution, have had to be experimental.

There has been fairly general agreement as to the need to develop both agriculture and industry. There is a question, however, both as to the degree of emphasis and the method. Some economists have argued that industry must receive prime importance and that agriculture will develop on its own; others argue that without agricultural development first, industrial development cannot be successful.

Conditions in most developing countries make it difficult to see how development programs can be successful without giving considerable emphasis

to agriculture. Most developing nations are largely agricultural, have heavy rates of population growth, low levels of literacy and relatively poor health. The agricultural areas must, for the most part, supply the food and fiber needs of the country. In the initial stages, at least, agriculture generally must supply the internal additions to capital. In addition, the labor to develop industry must be drawn from agricultural regions. This constitutes a capital cost to agriculture since resources must be used to produce, raise and even in a minimal sense, train the exported labor.

#### Food: A Restrictive Factor

Whether emphasis should be placed on supplying the heavy demands for food, at least in early stages of growth, is subject to more debate. Heady stated, " - - it cannot be proved that lack of food is the prime restraint to development in most underdeveloped countries." <sup>1/</sup> The FAO, however, concluded, "A poor diet, resulting in undernutrition and malnutrition, reduces working efficiency by (a) decreasing the worker's resistance to disease; (b) increasing the rate of absenteeism; (c) causing lethargy, lack of initiative and drive; (d) increasing accident rates." <sup>2/</sup> On the same subject Allen maintained, "A substantial body of medical evidence and opinion exists showing that over large parts of the globe great numbers of people get inadequate diets - - inadequate in terms of climatic environment and of the physical strains imposed upon them by social institutions and economic circumstances which are simultaneously the cause and the result of limited

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<sup>1/</sup> Earl O. Heady, "Research and Economic Development," in Food - One Tool in International Economic Development, Iowa State Univ. Ames, 1962, p.17.

<sup>2/</sup> FAO, Nutrition and Working Efficiency, Freedom From Hunger Campaign, Basic Study No. 5, Rome, 1962, p. 44.

economic development." <sup>1/</sup>

Poorer countries with populations growing at relatively rapid rates tend to have an increasing pressure on food supplies. In addition, a major part of consumer expenditure usually is for food and if development occurs, food demands expand. As Mellor stated, "The inflationary effect of failure to meet this need is large - - -" <sup>2/</sup> Since agricultural development tends to be slow, imports are likely to be necessary. If exchange is short, as is usually the case, concessional sales or grants can fill the breach. By supplying food aid it may be possible to maintain higher levels of investment in equipment and other supplies needed for internal development. In addition, food can be used as a means of increasing the output of large segments of underemployed workers through development projects, and by assisting in basic educational and technical training programs.

#### Estimated Requirements for Development

An FAO study indicated, it is not so much a question of supplies as of "capacity of the under developed countries to absorb these supplies into their economies at the high standards of effectiveness on which the giving countries and they themselves will rightly insist." <sup>3/</sup> In addition, while food aid will be fundamental to development, its effectiveness will depend largely on availability of other resources. Food aid, it is suggested, could not be expected to supply more than 15 to 20 percent of the needed capital. Also, about two-thirds of surplus commodities, offered to developing countries

<sup>1/</sup> Geo. R. Allen, "The World's Food Shortage," in Food - One Tool - - -, op.cit. p. 38.

<sup>2/</sup> John W. Mellor, "Increasing Agricultural Production in Early Stages of Economic Development", in Food - One Tool - - -, op.cit., p. 219

<sup>3/</sup> FAO, Development through Food: A Strategy for Surplus Utilization, Basic Study No. 2, Rome, 1962, p. 111.

can be considered as investment additions and the remainder as increased consumption.

The FAO study estimated, total aid required for all under developed countries, other than Mainland China, North Korea, North Viet-Nam and Albania would approximate \$4.3 billion per year for the next 10 years. In addition, \$400 million per year would be required for technical assistance and \$300 million for emergency funds. <sup>1/</sup> Total aid required, considering 25 percent error in the estimates, could be between \$5 and \$6 billion per year or 40 to 65 percent above the existing level. <sup>2/</sup> This would amount to one-half to three-quarters percent of the national income of developed countries. It was also suggested, not more than one-third of the amount should be tied to grants or sales of surplus commodities on a concessional basis, and of such grants, only two-thirds should be counted as capital aid.

Another study suggested much greater aid inputs will be needed and that they will continue through the 1970's. <sup>3/</sup> This study estimated that to meet nutritional standards and to sustain projected growth rates, the total food deficit by 1980 will be \$25.6 billion. Increased commercial imports could provide \$10.9 billion of this amount. Other sources would have to supply \$14.7 billion or about 10 times the annual volume of recent U.S. concessional sales and grants. The assumptions behind these growing needs, of course, involves the demand for growth and willingness to program for it.

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<sup>1/</sup> Ibid, p. 83.

<sup>2/</sup> Based on aid other than that provided by normal market activities such as private capital inflows.

<sup>3/</sup> W. W. Cochrane, A. B. Mackie, C. L. Chappell, "Uses of Farm Products as Aid to Developing Countries." Journal of Farm Economics, December 9, 1963. pp. 961 - 73.



## Case Histories of Food Use as Aid

Studies of programs have been carried out by a number of different authors on India, Colombia, Japan, Pakistan, Greece, Brazil, Israel, Tunisia and some assessments have been made of the World Food Program. A review of the conclusions drawn from these reports should be valuable in reaching some generalizations as to the effects and value of concessional sales and grants.

### a) Colombia

Agricultural imports to Colombia under PL 480 reached 100 million dollars through June 30, 1963. These imports during 1955 through 1960, totaled less than 0.4 percent of total production and about 8 percent of total agricultural imports. They represented an increase in calories of 50 per person per day. Farm commodity aid has been estimated as constituting no more than 5 percent of the capital imported from abroad.<sup>1/</sup> In terms of individual commodities, however, these imports were more important. Wheat imports ranged from 13 percent of Colombian production in 1955 to 56 percent in 1959, cotton imports averaged 18 percent of production during 1955-58 and edible oils averaged 39 percent of production from 1956 - 60.<sup>2/</sup>

It is difficult to isolate PL 480 imports as having a particular share in Colombia's growth which ranged between 5 and 6 percent per year during 1955-60. Imports of food relieved Colombia of some of its burden in this sector and allowed for development in other areas, including technical improvements for agriculture. Furthermore, while inflation continued, the imports did help to stabilize some important commodity prices and to slow down

1/ L. Witt and C. Eicher, The Effects of United States Agricultural Surplus Disposal Programs on Recipient Countries. Research Bull. 2, Mich. State Univ. Agri. Exp. Stn. 1964, p. 19.

2/ Theodore J. Goering and L. Witt, United States Agricultural Surpluses In Colombia: A Review of Public Law 480. Tech. Bull. 289, Mich. State Univ., Agri. Exp. Stn. 1963., p. 17.



inflation. Witt and Eicher suggested, "It is probable that international lending agencies were somewhat more inclined to make loans to Colombia because of this improved environment.<sup>1/</sup>

Wheat production remained about the same in Colombia during the period of increased imports. The Adams report maintained that without PL 480, this sector of production would have been stimulated by artificial pricing and other internal means costly to the economy.<sup>2/</sup> Cotton production, on the other hand, more than doubled and imports declined. Cotton farmers were protected by price policies which resulted in a small export surplus. Edible oils continued to be short in supply, in spite of PL 480 imports and high internal support prices. Thus, the conclusions were that Colombia's producers were not adversely affected either in cotton or oils. Apparently, the government policy of permitting greater proportional price increases for barley than for wheat resulted in some shifts of acreage to barley. Barley production thereby doubled and breweries increased beer production substantially.

Some shifts in trade patterns have occurred. Concessional imports of wheat from the U.S. rose to 100 percent of the total wheat imports in 1956 and 1957. The U.S. captured the increased sales associated with PL 480 as well as regular commercial sales. Canadian sales declined from 74 and 76 percent of the Colombian Wheat imports in 1953 and 1954, respectively, to zero in 1956 and 1957. Almost the same story has been true of wheat flour. Peru lost out in terms of the cotton market. Prior to PL 480, the U.S. barely entered the Colombian market for edible oil. By 1959 about one-third

<sup>1/</sup> Witt & Eicher, Op. Cit. p. 54.

<sup>2/</sup> Dale W. Adams, et al, Public Law 480 and Colombia's Economic Development, Mich. State Univ. and Universidad Nacional De Colombia, March, 1964.

of Colombia's edible oil imports were derived from the U.S. In this case, however, total imports increased such that even though other suppliers' percentage dipped, their absolute volume increased. It seems evident that major market changes were associated with PL 480 sales, with traditional suppliers suffering losses in some instances. Exact cause and effect are not clear since other changes occurred with the introduction of PL 480 imports. In addition, Colombia was short of currency with which to continue commercial purchases.

Currencies generated by PL 480 and used for U.S. obligations or as substitutions for aid or expenditures in dollars reduced exchange availability. It also resulted in forced direction of expenditures by Colombia on imports as well as forced direction of internal funds on certain types of activities such as agricultural development. While consumers have benefited by lower food costs, to some extent at the expense of producers, agricultural development associated with food aid programs tended to strengthen the position of the programs in terms of farmer acceptance. <sup>1/</sup>

b) Israel

From the inception of the program through December, 1964, Israel received over 300 million dollars of commodities at market value. On a per capita basis, Israel was the largest recipient with over \$81 each by December, 1961. This compared with \$4.55 for India, the largest recipient in total. The major imports were wheat and flour, feed grains and fats and oils.

Israel was unique in terms of the countries receiving aid. In the first place, per capita income in excess of \$500 was substantially higher

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<sup>1/</sup> Dale W. Adams, et al. op. cit. p. 364.

than for most recipients of food aid. The quantities of aid in terms of requirements for consumption were high and the country relatively advanced in terms of industrial development. In addition, Israel received many other forms of private and public aid.

A study conducted for the Bank of Israel by F. Ginor <sup>1/</sup> arrived at a number of interesting conclusions as follows: For the years 1955-60 both temporary and permanent increases, in investment, national product, employment, income, consumption, savings and exports, resulted from imports of surplus commodities. Gross capital formation was maintained at 41 percent for the period. PL 480 was estimated to have contributed 3.5 percent to total new investments and 2 percent to Gross National Product. Additional employment, generated by Title I investments, was 1.9 percent and unemployment was reduced by 50 percent. Stability was increased through a buildup of stocks and increases in production. The rate of inflation was held at 28 percent versus a probable 36 percent without PL 480 imports. Private consumption from 1954-60 increased by about 25 percent per capita, with about 14 percent attributable to Title I imports. The effect on food consumption was estimated at 10 percent, in addition to quality shifts from cereals to meats and fresh fruit.

c) Brazil

Through December 31, 1964, P.L. 480, Title I aid programmed for Brazil amounted to 576 million dollars at market value, including transportation. Almost all of this was for wheat and flour with small amounts of fats, oils, dairy products and feed grains. Over \$52 million in Title II commodities

<sup>1/</sup> U.S. Economic Research Service, A Summary and Evaluation of a report by F. Ginor, Bank of Israel, Tel Aviv, Israel, Entitled, "Analysis and Assessment of the Economic Effect of the U.S. Public Law 480 Title I Program in Israel", USDA, Wash. March, 1963.

were authorized with nearly 90 percent for child feeding programs and the rest for disaster relief and economic development programs. About 40 percent of Title II commodities to Brazil were milk and milk products. Brazil also received about \$67 million of agricultural products under Title III barter programs.

About one-third of the currencies involved in the agreements to June 30, 1964 have been disbursed. About 60 percent of the currencies generated were set aside for loans, the remainder for grants for economic development and other U.S. uses. Grant funds have been used to assist in Northeast Brazil to help cover the cost of school construction, rural community electrification, water supply, sewerage systems and local U.S. training programs. Funds have been used for research such as forage experiments and tests in central and south Brazil. Research grants for activities in many different areas of agriculture have been made to various institutions.

Activities in 1964 provide examples of Title II fund projects. Emergency flood relief provided food for 100,000 victims in the state of Bahia. Foods were provided as assistance in housing and colonization programs. Grain sorghums were provided in projects involving programs to develop dairy, poultry and swine production in a number of different areas. In the State of Ceara, for example, there are two projects to assist dairy and poultry marketing and production through demonstration of the value of feeding balanced rations, establishment of new marketing facilities and services, provision of processing facilities and improvements in supplies. The dairy program assisted in the establishment of the first and only milk pasteurization plant in the area of Fortaleza, a city of about 700,000.

Brazil also has extensive child feeding programs with distribution of foods as flour, rolled wheat, bulgar, cornmeal, vegetable oil, butter, dry

beans and milk. The milk program, begun in 1962, was reported to be reaching about 3 million school children in 1964.<sup>1/</sup> This is an important aid program in a country where illiteracy is one of the hindrances to development and where school dropout rates are extremely high.

A USDA study of programs in Brazil indicated that imports of wheat and flour from July, 1955 through June 30, 1962 accounted for over 25 percent of Brazil's consumption of these commodities providing about 10 percent of the total food calories received.<sup>2/</sup> Brazil's imports of wheat, during the first seven years of PL 480 shipments, increased by about 20 percent over the previous four years. The U.S. increased its share of the larger market from 28 to 40 percent. Argentina shifted from being a major supplier during this period and Canada lost the market entirely. While the report contended that other factors influenced the declining position of Argentina, it admits that the Canadian loss was probably due to PL 480. It argued, however, that if Brazil had been forced to use scarce foreign exchange to buy Canadian wheat, it would have had an adverse effect on the balance of payments and on economic development.

It was also concluded that PL 480 imports had not affected domestic production adversely. While wheat declined in production, it was attributed "to a lack of advantage of wheat over other domestic crops rather than to PL 480 imports."<sup>3/</sup> This conclusion was derived partly from the observation

<sup>1/</sup> U.S. Congress, House, Food for Peace, 1964 Annual Report, p. 72.

<sup>2/</sup> Robert W. Johnson, Operation of the PL 480 Program in Brazil, ERS - Foreign 59, USDA, Wash., November, 1963, pp. IV and 9.

<sup>3/</sup> Ibid, p. 15



that Brazil's wheat prices appeared to be supported well above U.S. rates,<sup>1/</sup> and that substantial price increases occurred during the period in question. Overall food production increased during the period by about 40 percent and while milk products were a large part of the import program, milk production increased more rapidly than all commodities together.

d) Other

Greece received aid from various sources following World War II including UNRRA, The Marshall Plan, The Mutual Security Program and PL 480 which have " - - supplied most of Greece's imports of grains, vegetable oils, and dairy products."<sup>2/</sup> A report on PL 480 in Greece, by Libbin, concluded that the programs were important contributors in the country's recovery. Feed grain imports permitted livestock expansion, other commodities helped upgrade diets and to relieve temporary shortages in certain areas. Currencies were used to finance development of power, transportation and housing.

India has been one of the largest agricultural commodity aid recipients with nearly \$2.5 billion under Title I through December, 1964. While per capita amounts are small, in the first six years they contributed 3.5 percent of the daily per capita calorie consumption.<sup>3/</sup>

India has been a heavy recipient under the Colombo Plan, as well as from other gifts or loans, Indian food aid has been used to offset critical food needs as well as to assist in its general development plans. Studies on

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<sup>1/</sup> There is a problem of conversion of the Brazilian currency to dollars, which makes it difficult to make precise comparisons.

<sup>2/</sup> Susan A. Libbin, Contribution of Public Law 480 to Development of the Greek Economy, ERS, Foreign 66, USDA, Wash. January, 1964, p. 3.

<sup>3/</sup> O.E.C.D. Food Aid: Its Role in Economic Development, O.E.C.D. Paris, 1962, p. 28.



India as reviewed by Witt and Eicher, indicate a fairly general conclusion that India suffered from lack of foreign exchange with which to buy capital and consumption goods needed in development. Thus Title I and Colombo Plan imports of food saved foreign exchange, thereby helping to finance greater nonfood imports and larger development programs in general. <sup>1/</sup>

e) World Food Program

Early in 1965, the Executive Director reported on the World Food Program. <sup>2/</sup> It was concluded that food aid helped to prevent inflation where local industrialization projects were carried out, as well as providing employment for idle workers. In addition improvement of nutrition levels raised productivity.

The report also indicated the Program tended to over-estimate food needs in emergencies. Because of time and distance involved, immediate emergency needs had to be met from local supplies by other agencies. Where needed, Program foods can be used to assist in reconstruction and rehabilitation.

It was also concluded that more advanced planning is necessary for successful settlement projects. Technical advice is important in livestock projects, to assure internal improvements in feed supplies and selection of animals for higher productivity. When there is scope for fuller employment of workers, labor-intensive self-help projects are considered to have potential. School feeding of students in the middle grade and technical education programs assists in formation of future leaders and skilled personnel needed for development.

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<sup>1/</sup> L. Witt, and C. Eicher, op. cit. pp. 61-63.

<sup>2/</sup> FAO Committee on Commodity Problems, Report on the World Food Program by the Executive Director, February, 1965.

It was recommended that more emphasis is needed on planning and formulating projects in general. Technical advice has been incomplete. Additional consulting throughout the implementation of the program is needed. Food supplied should cater to existing tastes or if new tastes are created, they should be for foods that will be available when aid has been terminated. Better results are indicated when food is distributed directly as an incentive to self-help projects, than when used as part payment of a wage. Over-estimation of potential beneficiaries and of the rate of progress should be avoided. Problems and waste have resulted from the limited life of the program and the requirements to perform certain actions within the given time.

The report states that "Food aid, if properly conceived with respect to timing and magnitude, can be just as important as other forms of aid."<sup>1/</sup> Negative effects that can accrue to receiving countries by depressing international prices can be avoided by proper care and planning of food aid. The World Food Program has made it possible to obtain donations from many more sources than with bilateral aid. While quantities were small, the inclusion of foods, other than those in surplus, permitted more adequate diets.

For the future the report suggests the Program should carry on proven activities, experiment with others and be ready to use newly accumulated surpluses in economic and social development. Priority should be given to food aid for educational programs. Some experiments in assistance for overall country planning should supplement the project approach. Programs should provide for commitments up to five years and should include research with respect to all aspects of food aid.

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<sup>1/</sup> Ibid, p. V.

## V- GENERAL ASSESSMENT OF CONCESSIONAL SALES AND GRANTS AS AID

Direct assessments of existing programs have been made largely in terms of estimated contributions of specific projects. There has been little research in assessing the relative importance of the use of agricultural commodities, surplus or otherwise, as a tool in development versus other means such as direct aid in cash. In addition, the assessments are based largely on observations of occurrences within a given country, with comparisons made to other time spans. The problem of isolation of cause and effect is extremely difficult under the circumstances, due to changes in other factors. For example, it is virtually impossible to say what imports of certain commodities would have been without surplus disposal or food aid programs.

The assessments made of programs indicate positive gains in terms of investment, growth, stability and general welfare of people. Undoubtedly, they contributed in a humanitarian way, providing better diets and supplying foods in emergencies. They aided in carrying out specific development programs and by reducing the need for scarce foreign exchange which could be released for the purchase of other important capital goods. Food aid contributed to stability by reducing pressures of inflation resulting from development projects. Some of the uses of counterpart funds, of food for work, the payment for technical assistance, schooling and other projects also contribute to long run development.

There are weaknesses to the programs. This is especially so in the area of programming and planning. Foods used are for the most part, the result of surpluses associated with resource allocation problems of the more advanced economies. They may or may not be the products most wanted or needed. Food aid is often extremely costly, if not impossible, to distribute to the area of greatest need, due to lack of transportation or market facilities. Time

horizons also tend to be short leaving more uncertainty to aid continuity than is desirable for long term development needs.

There are also questionable aspects about the accepted principle of additionality. First, it is a difficult rule to follow since additionality is hard to prove or disprove. Second, if products are truly being used as aids to development, it may well be in the interests of the developing country to make substitutions for other cash sources, which obviously has occurred in some instances.

There are other possible undesirable effects of the uses of surplus agricultural commodities as aid. If they are used as substitutes for more desirable forms of aid, development programs may be retarded. It is by no means certain, however, even assuming other forms of aid were better, that donors would make them available. Agricultural imports may have depressing effects on internal production but the type and extent of the effect is not likely to be known and should be studied in each case. Non-commercial transactions have disturbed normal commercial markets of competing countries, thereby causing economic problems elsewhere. However, economic development associated with the transactions may offset the negative effects on commercial trade. It has been suggested also that an "umbrella effect" of the programs in terms of international food prices should be taken into account.<sup>1/</sup> Accumulation of currencies provides an external leverage with respect to the direction of the country's development. The required uses may or may not conform with internal plans. The currencies may also substitute for other donor expenditures, reducing available foreign exchange. Poorly planned expenditure of the currencies may be inflationary.

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<sup>1/</sup> Ibid, p. V.

Concessional sales or grants of agricultural products do not appear to be a very efficient form of aid. U.S. products shipped under Title I between July 1, 1954 and December 31, 1964 had an estimated Commodity Credit Corporation cost of almost \$14.7 billion but a market value of only \$9.4 billion or less than two-thirds the cost. This is based on existing market prices which probably over-estimate the value because of the effect of the programs themselves. In 1960, Schultz estimated " - - - the value to the recipient country is about 37 cents per dollar of CCC cost and the cost to us in earnings foregone may be zero." <sup>1/</sup> Whether Schultz estimate was correct or not, at least the aid value must have been less than two-thirds of the CCC cost. Furthermore, losses in programming, inadequate products, costs of distribution, negating effects on receiving and third country production, and other factors reduced the value in the direction of Schultz estimate. It seems unlikely the overhead costs would be as great with direct cash aid and it would be expected that in most cases at least the value of programs performed with cash aid on an equal value basis would have better results. (Mounting criticism of aid programs in general casts some doubt on the latter assumption. The provision of convertible currency, for example, provides flexibility of action by the developing country but it does not guarantee efficiency in development programs.)

From the above, it would seem fair to assume that agricultural product aid, by concessional sales or otherwise, has not been as efficient as direct cash equivalent aid. In addition, numerous weaknesses have been observed in the programs. Two important factors appear over-riding to these observations.

<sup>1/</sup> T. W. Schultz, "Impacts and Implications of Foreign Surplus Disposal on Underdeveloped Economies; Value of U.S. Farm Surpluses to Underdeveloped Countries", Journal of Farm Economics, December, 1960, p. 1023.



First, for countries with surpluses, the real costs of food aid to the donors may have been zero or negative under the given political and economic conditions. It must be remembered that surpluses are a by-product of domestic programs, not foreign aid. While it may be speculated that the absence of disposal programs would result in adjustments providing more efficient resource use, this is by no means certain. For example, there may be other factors such as industrial unemployment which would act as a barrier to resource adjustment.<sup>1/</sup> Politically acceptable alternatives may be as costly as present programs, without including aid benefits. Second, developing nations continue to need food both to relieve emergency shortages and to assist in their economic and social development programs. Concessional sales have provided an acceptable means of meeting this need in the absence of other alternatives.

The surpluses are a fact and the policies either exist or are being formulated to perpetuate their existence, on an even broader basis, in places such as Western Europe. Surpluses have represented an embarrassing burden in what appears to be at present an insoluble political situation. Furthermore, the world has with time developed a psychology of acceptance of the use of food as aid in economic development. It seems natural that this attitude should persist and even be strengthened in the future, given the adjustment problems of agriculture associated with the excess food production in the more advanced countries, and the spectre of half of the world's population being undernourished.

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<sup>1/</sup> Walton J. Anderson, Canadian Wheat in Relation to the World's Food Production and Distribution, Sponsored by Alberta Wheat Pool, Manitoba Pool Elevators, Saskatchewan Wheat Pool, Modern Press, Saskatoon, Sask., 1964, p. 43.



## VI- THE ROLE OF NON-COMMERCIAL SALES IN MARKET DEVELOPMENT

Aside from their role in economic development, non-commercial bilateral food aid programs have tended to be market expanding. This has resulted from built in programs designed to use generated funds to advertise and carry out market expansion. It resulted, also, from changes in diets through distribution of different foods and from association with a particular type of food from a given contributor. Finally, markets were expanded as result of the growth of incomes in the receiving country associated with development. Some of the market expansion, accruing to major donors such as the U.S., has occurred not as a result of gross market growth, but from source of origin transfers.

Total U.S. agricultural exports approximately doubled between 1955 and 1964, from \$3.1 to over \$6 billion. Commercial agricultural exports during this period rose from \$2.3 to \$4.5 billion. "Most of this expansion occurred in Japan and the industrial countries of Europe that had received large quantities of food aid during the recovery period." <sup>1/</sup> These countries now receive almost no concessional sales products. Other countries that were recipients of food aid and have expanded commercial purchases from the U.S. are Greece, Israel, Taiwan, Poland and Spain. For example, commercial sales to Spain increased from an average of \$11 million per year 1955-57 to \$78 million for 1961-63 and in 1963 they reached \$112 million. Increases were largely in products which were received as aid prior to 1962. Commercial sales to Israel increased from \$8 million to \$19 million for the same period and amounted to \$24 million in 1963. Other countries have also shared in the expanded market in Israel. Again as with Spain, major increases have been in products as soybeans, oilseeds and feed grains, all used in aid programs.

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<sup>1/</sup> Frank D. Barlow, Jr., and Susan A. Libbin. Op.cit. p. 7.

Up to 5 percent of foreign currencies obtained from the sale of surplus United States agricultural commodities under Title I are set aside for export market development work, but as of December, 1964, only about \$56 million had been used. A recent report on market development and its impact on exports stated: "The sharp increase in volume and value of commercial exports since PL 480 and the market development program began is common to virtually all major U.S. agricultural export commodities."<sup>1/</sup> Feed grain commercial exports were up 398 percent over 1956, rice 222 percent, wheat and flour 249 percent, poultry, hides and skins 400 percent, cotton 230 percent, tobacco 19 percent, soybean and products 234 percent.

Programs are focussed on dollar markets or those with potential. Technical assistance is provided in processing and preparing foods, and mobile kitchens have helped to introduce wheat food in Pakistan, India and Japan. School lunch programs help to develop tastes. The growth and development of markets in Japan and Italy are classified as outstanding successes.

Learn and Houck conducted a study of the market development projects under PL 480 in West Germany.<sup>2/</sup> The program began in 1956 following Title I sales there. Market development projects have been conducted on cotton, poultry, soybeans, wheat, lard and fruits and trade fair exhibits have been sponsored. Conclusions of the study were the following:

- (1) Market development has been worthwhile, has expanded sales and should be instituted as a permanent program.

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<sup>1/</sup> U.S. Foreign Agricultural Service, Foreign Agriculture Including Foreign Crops and Markets, USDA, Wash., January 18, 1965, p. 8

<sup>2/</sup> Elmer W. Learn, and James P. Houck, Jr., An Evaluation of Market Development Projects in West Germany, Univ. of Minn. Agri. Exp. Stn. Bull. N.455, June, 1961.

- (2) The purposes and objectives of the program should be more clearly defined and coordinated with other programs.
- (3) There can be no formula for such projects and each product must be treated as unique.
- (4) There was lack of planning and market analysis.
- (5) Numerous administrative and resource problems exist. More well trained personnel are needed.

The Israel delegate at the June, 1965 meeting of the FAO Committee on Commodity Problems presented data illustrating changes in Israel's imports. In 1954, meat imports were 4,100 tons, whereas, in 1964, Israel made cash purchases of 2,800 tons from the U.S. and 10,500 from other free world countries. Rice imports in 1954 were 300 tons from the U.S. and 3,700 from other countries, while in 1964, cash purchases for the U.S. exceeded 235,000 tons. Tobacco purchases rose from \$195,000 from the U.S. and \$535,000 from other countries in 1954 to \$315,000 and \$2,150,000, respectively, in 1964. <sup>1/</sup>

Proof as to whether the observations with respect to market promotion, are merely that of association rather than cause and effect, is difficult to obtain. The researcher or observer can rarely be sure that the results observed would not have occurred even without promotion. Nevertheless, there seems to be considerable evidence to indicate that the combined effects of programs for food distribution on a concessional basis and associated market development activities do produce beneficial results in terms of commercial market expansion. The direction of results are as would be expected, but the amount of the gain is difficult to predict.

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<sup>1/</sup> FAO Committee on Commodity Problems, Statement by Delegate for Israel, "Role of Title I Public Law 480 in Israel's Economy". June 8, 1965.

For countries such as Canada, there is strong argument for being involved in market development activities in self defense against the massive programs of the U.S. and other competitors. Exports of agricultural products are very important to Canada's economic welfare, amounting to one-third or more of the value of agricultural production. Indications are that while Canadian agricultural exports have been rising, the rate of growth is less than for the U.S., especially during the past 15 years.

Many areas of the world are moving into stages of rapid development and demand for imported products is strong. Other countries with less potential to buy now can be expected to enter markets in the future. Studies indicate that income elasticities of demand in developing countries are high.<sup>1/</sup> Considering population growth and possibilities for economic development, there would appear to be extensive opportunities for market expansion in the future. To capitalize on this, it will undoubtedly be necessary to be involved, if not in aid projects, at least in some form of market development activity.

#### VII- CONCLUDING REMARKS

There is a large and growing need for increased food supplies to improve nutritional levels and to aid in development. It is unlikely that the developing nations will, in the near future, be able to meet these needs without help. They neither have the ability to produce the supplies themselves nor the exchange with which to purchase them in normal commercial channels.

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<sup>1/</sup> For more details see Robert D. Stevens, Elasticity of Food Consumption Associated with Changes in Income in Developing Countries, FAER No. 23, U.S. Economic Research Service, Wash., March, 1965, also FAO, Third World Food Survey, 1963.

Concessional sales and grants of agricultural commodities, surplus or otherwise, help to meet this need and contribute to development. That they lack the potential for efficiency in general that exists for aid in the form of cash is hardly to be disputed, if all costs are considered. But, with world needs for food placed largely in a humanitarian framework and with the problems of resource adjustment in agriculture of the developed countries, there seems little likelihood of major policy changes in the near future.

If surpluses exist, and there are indications they will persist in the future, it would appear wise to use them for aid. They may thus perform the dual role of providing aid and assisting in developing future markets. This is not to imply that food aid should become a substitute for other available and needed forms of aid.

There is need for closer ties between food aid and general aid programs. Planning should include food requirements and to whatever extent possible, resources should be used to obtain the most useful products at the least cost. In light of development needs, more emphasis should be placed on the requirements of aid and less on the need to eliminate surpluses. As indicated by the experience of the World Food Program, aid may be improved by including foods other than those traditionally in surplus.

More research and planning needs to be done to assure maximum returns from aid irrespective of the source. Programs focussing on short run goals often are costly in terms of long run development. Resources may be wasted as result of lack of planning or the insistence on quick returns. There is need for appraisals of programs and methods to eliminate ineffective and wasteful projects.

There should be increased emphasis on multilateral programs in an attempt to improve development results and to avoid conflict of interest. A food



reserve should be maintained by an international agency to meet emergency needs, especially in densely populated areas. Multilateral programs involving both aid and food reserves provide the advantage of pooling and, therefore, the opportunity to use more types of commodities. They allow for greater flexibility since the dominating self interest of the donor country is removed. Greater coordination should be possible under multilateral programs. The most important aspect, however, is that they provide the means by which smaller countries can share in the burdens, responsibilities and returns associated with the programs.

Because of the magnitude of the programs and interests of the participants, bilateral arrangements can be expected to continue to dominate. Nevertheless, increased involvement of international organizations to help advise, plan and coordinate bilateral programs and to expand multilateral aid activities seems desirable.

Finally, more emphasis should be placed on market development and improvement of trade conditions. Efforts should be made to improve the developing countries potential to substitute trade "for aid" as a means of obtaining imported capital for development, whether food or otherwise.



# THE RELATION OF DOMESTIC AGRICULTURAL POLICY

## TO INTERNATIONAL TRADE

by

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The purposes of this paper are threefold: a) to examine the role of international trade in determining agricultural prices and incomes in Canada; b) to consider the feasibility and the implications for the domestic economy of alternative agricultural policies in the light of the effects of international markets on Canadian farm prices; and c) to delineate and attempt to resolve the areas of conflict between international and agricultural policy objectives. These issues will be considered in turn.

### I. INTERNATIONAL TRADE AND CANADIAN AGRICULTURE

International trade affects the agricultural sector of an economy in a number of ways. First, the economy as a whole gains from trade in that it can concentrate its production in products which it can produce relatively more cheaply than other countries and sell them for products which are relatively more costly to produce at home. To the extent that the whole economy gains, the agricultural sector may be better off. Second, since the prices of particular products of given quality are the same all over the world<sup>1/</sup> and are determined by world demand and supply conditions, the existence of international trade plays an important role in determining the prices of individual farm products relative to each other and to non-farm

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<sup>1/</sup> Adjusted of course for transportation costs, the exchange rate and the effects of tariffs and direct controls.

products. This, in turn, is a major factor determining the incomes of the resources which are specialized in the production of agricultural commodities.<sup>1/</sup> Third, the prices of agricultural relative to non-agricultural products are determined not only by the world demand and supply conditions for the individual commodities, but, in addition, by the necessity that the international accounts be in equilibrium. Imports (expenditures abroad) must be equal to exports plus net capital inflows (receipts from the sale of goods and securities to foreigners). If imports exceed exports and net capital inflows, there will be a deficit in the balance of payments which must ultimately be corrected by a fall in the foreign price of the Canadian dollar.<sup>2/</sup> This in turn will result in a rise within Canada of the prices of

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<sup>1/</sup> Specialized resources are those which cannot or are unwilling to move from the production of one commodity or group of commodities to another, or which can do so only by taking a lower wage or rental.

<sup>2/</sup> In the short-run, a deficit in the balance of payments can be offset by the sale of gold and foreign exchange by the monetary authorities. This policy can only continue as long as foreign exchange reserves last. Then one or more of three things must be done. A deflationary monetary and fiscal policy, which reduces the level of domestic income and imports, can be followed. Alternatively, direct controls can be applied to imports. Or, finally, the foreign price of domestic currency can be reduced or allowed to decline. The first of these methods is objectionable on the grounds that it creates unemployment while the second eliminates some of the gain from trade. Exchange depreciation is the only method by which it is possible to simultaneously maintain full employment, get the maximum gain from trade, and maintain balance of payments equilibrium.

internationally traded goods relative to the prices of goods and services which do not enter into international trade.<sup>1/</sup>

A major concern of this paper is with the second of these considerations. Let us analyse first the situation with respect to products that enter into trade primarily as exports.<sup>2/</sup> The ability of a country like Canada to influence the prices it receives for its exports depends on its ability to influence world demand and supply conditions. If Canada were the only producer of wheat in the world, a 10% reduction in the amount she supplies would reduce the world supply by 10% and would raise the world price and the price received for Canadian exports substantially, say, by 20 to 30 percent. In fact, however, Canada supplies less than 10% of world production.<sup>3/</sup> A reduction in Canadian sales of 10% would therefore reduce world supply by less than 1% and might, as a consequence, raise the world price by less than 2 or 3 percent. Of course, if the United States also reduced its sales, the two countries together would be able to bring about a somewhat greater increase in the price. However, it is clear that the capacity of any small country to influence the prices it receives for its

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<sup>1/</sup> If exports plus net capital inflows exceed imports there will be a surplus in the balance of payments, an appreciation of the Canadian dollar will be required, and the prices of internationally traded goods will fall relative to the prices of untraded goods.

<sup>2/</sup> This group of commodities includes wheat, oats, barley, rye, flaxseed, buckwheat, field roots, calves, evaporated whole-milk and skim milk powder, maple products, and tobacco.

<sup>3/</sup> Actually Canada supplies only 7-8 percent of free world production and some 5% of world production, based on 1960-62 figures.

exports of agricultural products by government policy is severely limited unless it produces or forms a combine with nations which produce a large share of the world supply.<sup>1/</sup> This I believe is a fundamental fact of life for Canadian agriculture. Wheat is one product for which Canada is an important world producer. Yet, even in this case she has, by herself, a relatively small influence on the price she receives in world markets. For most exports, Canada's share in world supply is extremely small as is her influence on the world price.<sup>2/</sup>

There is a remote possibility that, for certain specialty products, Canada could influence her export prices on the demand side. Although world demand for the product cannot be increased, it may be possible to induce a preference for Canada's version of the product by brand promotion, and thereby induce foreign consumers to pay a slightly higher price for it. Since the Canadian and foreign versions of the product are still likely to be very good substitutes for each other in consumption the possibilities of obtaining substantial price increases from this type of activity are limited.

In none of the products which enter into trade both as exports and

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<sup>1/</sup> The only way in which a group of nations, pricing as a combine, are able to raise the price is by together reducing the world supply going on the market. This involves a multi-nation accumulation of surpluses, or multi-nation restrictions on production.

<sup>2/</sup> Canada's exports, as a percent of free world production, were 20% for flax, 15% for oats, and around 5% for barley during 1960-62. For practically all other products the shares of Canadian production in the total market are much smaller.

imports<sup>1/</sup> does Canada produce a significant share of the world supply. Not only are the prices at which she sells determined almost completely by forces outside her control, but the prices at which she buys are similarly beyond her influence. The buying and selling prices may, of course, differ because the exports of the product are of a different grade and price than the imports, because transportation costs across the country are greater than the costs of transportation between the various regions and neighboring countries, or because domestic production exceeds consumption in certain seasons and falls short of it during others.

Certain products may be neither exported nor imported<sup>2/</sup> because domestic production and consumption are equalized at prices within the range of transportation costs or because high domestic prices do not permit exports and government restrictions (which may be responsible for the high prices) prevent imports. The fact that a product is neither exported nor imported does not imply that international trade has no implications with regard to setting its price. Since Canadian production is a small fraction of world output, the government cannot, in the absence of import controls, raise the price above the world price plus transport costs without incurring a large volume of imports.

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<sup>1/</sup> Products falling into this category are dry peas, and beans, soybeans, clover and grass seeds, potatoes, cattle, hogs, wool, sheep and lambs, cheese, apples and some fruits, and honey.

<sup>2/</sup> Included among these products are hay, clover and butter.

One must conclude from the above analysis that the prices paid and received by Canada for agricultural products which enter into trade are determined by forces for the most part beyond her control. In the absence of interference by the Canadian government, these would be the prices received by domestic producers of agricultural products. Under such circumstances, the producer prices of farm products would be higher relative to the domestic prices of non-farm products, the higher the world demand for farm commodities, the lower the world supply, and the lower the price of the Canadian dollar in terms of foreign currency. To the extent that foreign governments subsidize the production of agricultural commodities and allow the additional output to go on the market, the world supply will be increased and Canadian prices will be lower.

## II. IMPLICATIONS FOR ALTERNATIVE AGRICULTURAL POLICIES

I now turn to an examination of alternative agricultural policies in the light of the above situation. These policies fall into two broad groups: those which involve direct interference in the pricing process, and those which affect prices only indirectly, if at all. The first group includes price stabilization and price support policies as well as export promotion. The second group includes research and extension and various types of direct assistance to farmers. The latter group will be discussed first.

### Non-Price Policies

The essential feature of these policies is that they affect agricultural prices and trade in agricultural products only indirectly. However,



international trade may have implications with respect to the domestic effects of such policies, as is the case with research and extension activities. The availability and use of new techniques and better varieties of seed and equipment enables farmers to produce the same output at lower cost per unit, or more output at the same cost per unit. It is widely believed that, because of the low price elasticity of demand for farm products, such productivity changes are passed on to consumers almost entirely, with the results that the immobile resources in agriculture receive less than before the productivity change, and the mobile resources are forced to move to non-agricultural occupations. For the world as a whole, this is undoubtedly true. Witness the decline in the world price of wheat relative to the prices of non-agricultural products during the past fifteen years. But it does not follow from this that expenditures of the government for research and extension services make the income positions of the resources in Canadian agriculture worse. For most products which enter into world trade, Canada produces such a small share of world supply that a relatively large expansion of Canadian production would bring about little decline in the world price. Thus, a productivity change which enabled given resources to produce more output would have the effect of increasing farm income and the returns to these resources. Of course, if productivity changes in other countries, the gains would be passed on to consumers. However, in this case, the world price and Canadian export prices would fall whether or not there is any productivity change in Canadian agriculture. So for export products, Canadian farmers have everything to gain by

vigorous research and extension programs on the part of their government. This is not necessarily true for products which do not enter into world trade, either by reason of high transport costs or import restrictions. As long as the Canadian price exceeds the world price less transport costs, increases in domestic output resulting from productivity change will drive down the domestic price, passing on much of the gain to consumers. Research and extension activities have an indirect effect on international trade in agricultural products in that the increased Canadian productivity results in increased exports or reduced imports.

Direct assistance policies can be regarded as payments to farmers which are independent of the level of output and do not therefore directly affect production incentives. Examples would be the P.F.R.A. and P.F.A.A. payments, payments under the Maritime Marshland Rehabilitation Act, the wheat grant and acreage payments to western grain producers, and compensation to producers resulting from losses on account of disease. Such policies will indirectly affect production and exports and imports by increasing the resources in the hands of farmers (e. g. P.F.R.A.) or by making it somewhat less profitable for individuals to migrate out of agriculture.

#### Price Policies

The distinguishing characteristic of price policies is that, through a manipulation of prices paid to farmers, they act as a direct incentive to increased production. Higher prices for a group of agricultural products encourage the introduction of more labor, capital equipment and fertilizer

into the production of these products and into agriculture as a whole. The result is an expansion of output.

The value of export promotion activities to agriculture depends upon their ability to generate higher prices to farmers for agricultural exports. Higher prices can be brought about either by increasing the prices foreigners pay for Canadian exports or by increasing the fraction of the f. o. b. prices that goes to farmers and reducing the fraction that goes to middlemen. Because Canada produces a very small share of the world supply of most of her export products, any attempt to increase Canadian sales by increasing the total world demand through promotion activities is likely to be futile. It might be possible to increase the fraction of world demand going to Canada by attempting to create brand preference, but, since Canadian and foreign versions of most products, given their quality, are likely to be very good substitutes in consumption, it would be hard to induce foreigners to pay very much of a premium for Canadian products. At given prices on the export markets, the price to the farmer will be increased to the extent that the government provides free some of the services otherwise provided by middlemen at a cost to the producer. Examples would be such services as disseminating information, acquainting potential buyers with the products, and extending credit. Unless producers are charged with the costs of conducting this type of activity, such a policy is really a disguised subsidy on exports.

The purpose of price supports is to raise the prices received by farmers for agricultural products, and as a consequence, the incomes of

of the resources in agriculture. One method of doing this is to restrict the supply of agricultural products, by some form of output control, forcing prices up. As a general policy, this is not likely to be suitable in the Canadian context. The prices of farm products which enter into trade are determined on the world market, and variations in Canadian supply are not likely to have much effect on world prices.<sup>1/</sup> For products which are not traded, the prices received by farmers can be increased by restricting the supply, as has been done for example in the fluid milk market. Where domestic prices are raised above the international levels import controls are necessary to prevent foreigners from selling in Canada under the higher prices.

In cases where imports exceed exports, an effective way of raising the domestic price is through tariffs and import restrictions. The reduction in imports lowers the domestic supply and forces up the price. Some of the decline in supply on account of reduced imports will be offset by an increase in domestic production resulting from the higher price. Exports of the product will be lost but domestic production will be substituted for a part of the import surplus.

Another alternative is for the government to offer to purchase domestic production at some support price higher than the market price. The result is the accumulation of surpluses since the higher price reduces

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<sup>1/</sup> Attempts by cooperative producer marketing boards in the separate provinces to raise prices by holding supplies off the market have not been successful because these groups do not supply a sufficient amount of the total output to have much effect on the price.

the amount consumed and increases the amount produced. For products which enter into trade primarily as exports the accumulation of surpluses is likely to be very large if prices are supported substantially above the free market level.<sup>1/</sup> If imports, where they exist, are maintained at their initial levels by direct controls or tariff arrangements, the government may well end up purchasing all exports. If imports are reduced by direct controls, and domestic production substituted for them, the required government purchases would be smaller. However the government would still have to purchase any surplus of exports over imports. The government has two relevant alternatives with respect to disposal of such surpluses. One alternative would be to give or sell them at bargain prices to underdeveloped countries with low nutrition levels. Another alternative would be to sell them on the world market in normal commercial channels.

An appropriate method of supporting the prices of farm products in the Canadian context is the deficiency payment approach. Under this method, the government sets a support price above the free market level and pays the farmer the excess of the support price over the market price. In the case of major export products like wheat,<sup>2/</sup> the higher price to producers would stimulate increased production which, when placed on the market, would drive the world and export price below the initial, pre-support level. This has two implications. First, to the extent that export

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<sup>1/</sup> A pertinent example is the rather serious stock situation in hogs and eggs which confronted the Agricultural Stabilization Boards during 1958-59.

<sup>2/</sup> Also oats, barley and flax.

prices fall, the Canadian government is subsidizing foreign consumers of wheat. Second, the fall in the world price makes the cost to the government of maintaining a given price to the producer greater. For example, in order to achieve a 10% increase in the price to the producer, it might be necessary to pay a deficiency payment of 20% of the price to the producer. Of the payment of 20% of the producer price, two-thirds might go as a subsidy to Canadian farmers, and one-third might take the form of a subsidy to consumers of wheat, the bulk of whom are foreign.<sup>1/</sup> For most other export products, Canadian sales would not have an important influence of the world market price and the governmental expenditure would go mostly to the Canadian producer, the reduction in the price to the foreign consumer being insignificant.

Deficiency payments are also appropriate for products for which imports exceed exports. The deficiency payment is, in this context, a direct subsidy on domestic production which causes domestic output to expand at the expense of imports. Thus, the results are virtually the same as in the case of tariffs or direct controls on imports. The only difference is that the subsidy under deficiency payments is paid by the taxpayer whereas, under import restrictive devices, the subsidy is paid by the consumer of the product. Since low income consumers spend a greater fraction of their income on food than high income consumers, deficiency payments are

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<sup>1/</sup> This is an illustrative example and not a prediction.



likely to result in more equality in the distribution of income than tariffs or direct controls.

Another deficiency payment alternative is to give payments on some maximum output per farm.<sup>1/</sup> This tends to give proportionally greater assistance to small as compared with large farmers and involves production incentives only for those farmers who produce less than the designated maximum output. However increased production and increased exports would still occur.

Considerable discussion has gone on in Canada concerning the merits of a two price system for products which enter into international trade primarily as exports. One can envisage two alternative ways in which such a system can be applied. The first would be a deficiency payment approach where consumers are charged the support price rather than the market price, and the deficiency payment is paid only on exports. The difference between this and a straight deficiency payment is that a part of the subsidy to producers is paid by the consumer of the product instead of by the government or the taxpayer. This is equivalent to a policy of purchasing surpluses and dumping them in the export market at the world price. A second alternative would be to have no deficiency payments at all but raise the price to the domestic consumer and let the price received by farmers for exports remain at the world market level. The receipts from

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<sup>1/</sup> Limits on the quantity of output of certain products for which any farmer could receive deficiency payments under the Agricultural Stabilization Act were established in 1960.

the sale of the product on both the domestic and the export markets would be pooled and some average price paid to farmers. This policy places the entire cost of the program on the domestic consumer. It has no advantages over a deficiency payment from the point of view of the farmer. For example, if 25% of production is consumed domestically and the price to the consumer is raised by 40%, the result would be very roughly equivalent to a deficiency payment which raised the price to the producer by 10%.<sup>1/</sup> If one desires more equality in the distribution of income, a two price system is clearly inferior to deficiency payments since the costs in the former are borne to a greater extent by the low income groups. A two price system results in a greater quantity of subsidized exports at given producer prices than straight deficiency payments since the reduction in domestic consumption resulting from the higher price to consumers must be exported.

It is not possible in a few pages to give a complete enumeration and discussion of all the combinations of price support methods which have been used in the past. Policy makers have used a great deal of ingenuity in this direction. For example, the current dairy policy is in effect a three price system -- one price for the producer, one for the domestic consumer, and a third price on the export market. While the price to the producer for

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<sup>1/</sup> This example assumes that the world price is unaffected by the volume of Canadian exports of the product in question.

domestic output is presumed to be supported at \$3.50 per hundredweight, the actual support level on domestic output is less since the costs of dumping surpluses on the foreign market are deducted from the deficiency payments on domestic production. It would appear that much of the complexity of the policy could be avoided, with its effects remaining substantially the same, if a somewhat lower support price were maintained and a lower deficiency payment made on all output rather than just domestic production.

The function of price stabilization policy is to prevent large swings in prices to producers while maintaining average producer prices close to long-run equilibrium levels. Policies of this type have been carried out in Canada during the post-war period by various combinations of price support techniques. If prices tend to be supported during periods of low market prices with no attempt to level off prices in high price periods, these policies have the effect of maintaining somewhat higher average prices to producers than would otherwise occur. Under these circumstances such a program should be regarded as a price support as well as a price stabilization policy.

One aspect of Canadian price policy which has received considerable recent attention is the policy of subsidizing the movement of feed grains from the Prairie Provinces to eastern and western points. This differs from other price support programs in that its major effect is probably not to raise the overall level of farm prices and output, but rather to shift livestock production from the prairies to other areas and feed grain

production in the opposite direction.<sup>1/</sup>

### III. CONFLICTS WITH INTERNATIONAL POLICY OBJECTIVES

Before turning to a discussion of international policy objectives, and the conflicts of agricultural policy with them, it is necessary to give some attention to the objectives of economic policy generally. Fundamentally, there are two basic objectives of economic policy -- first, efficiency, to ensure that the economy produces the maximum amount of goods and services possible, and second, distribution, to ensure that the goods and services so produced are equitably distributed among the members of society. Considered in its widest sense, the notion of equitable distribution might involve the distribution of goods and services to "needy" foreigners as well as among individuals within the domestic economy.<sup>2/</sup> Most of the

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<sup>1/</sup> This is not to argue that the policy would have no effect on the overall level of farm prices. A much more careful analysis of this program is being done by the Agricultural Economics Research Council.

<sup>2/</sup> An additional objective of economic policy might be to ensure that the consumption pattern of the members of the community meet certain standards regarded as ethical. For example, the consumption of narcotics is prohibited, and the consumption of certain welfare services, old age pensions, medicare, etc., is ensured. By inducing the community to save a larger fraction of income than it would otherwise choose, a set of norms with respect to the socially desirable rate of growth might similarly be imposed. Other issues involved in discussions about economic growth can be regarded as questions of efficiency. Efficient resource use not only implies that, given the tastes of the community, the maximum output of current goods and services should be obtained from the resources devoted to current consumption, but that the savings of the society should be allocated to those investments which result in the maximum amount of future goods. Some might argue that a further objective of economic policy is the provision of economic security for members of the community against adverse forces beyond their control. I treat this as another aspect of

problems of economic policy result from two basic facts. First, problems result from the fact that the objectives of efficiency and equitable distribution sometimes conflict, making it necessary to choose between them. Second, problems result from the fact that what is "equitable" depends almost entirely upon value judgments. Every government action (including as a special case, no action at all) helps some individuals and hurts others. The basic choices as to who should be helped and who should sacrifice, and as to the reduction in economic efficiency that should be tolerated in order to make appropriate redistributions of income, are choices which must ultimately be made by the community at large through its political system. The remainder of this paper is devoted to a delineation of the nature of the choices that have to be made with respect to agricultural and international economic policy, and the issues involved in making them.

The underlying goals of international economic policy appear to include the following; first, to obtain the maximum gain from international specialization; second, to raise the level of income in the poorer nations of the world; and third, to maintain equilibrium in the balance of payments.<sup>1/</sup>

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<sup>2/</sup> (Continued from Page 16) distribution -- the provision against the adverse distribution effects of economic change. Other "political" objectives of economic policy such as maintaining the nation's political and cultural independence, and the protection of its international interests are also ignored, except for discussion in a subsequent footnote.

<sup>1/</sup> One important objective of Canadian economic policy -- that of maintaining the country's political and cultural independence from the United States -- has been ignored. While this essentially political objective does have some implications with respect to international trade policy, it is of little significance for agricultural policy or for



The first is essentially an efficiency objective although it implies that the community is willing to allow important distribution effects resulting from the elimination of existing tariffs. The extent that Canada can concentrate her resources in the production of goods and services which can be produced most cheaply with the Canadian resource base, and export them in return for goods which can only be produced in Canada at a cost in excess of the foreign price, the overall level of real income in the country will be higher. It is also true, however, that the resources specific to the import competing industries will be hurt by a move toward free trade, although to a lesser extent than the rest of the economy will gain. The second objective, that of raising per capita incomes in the underdeveloped world, is primarily a distribution objective, while the objective of maintaining balance

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<sup>1/</sup> (Continued from Page 17) the areas of trade policy that might conflict with agricultural policy. The country may well be able to isolate itself culturally by prohibiting or restricting the imports of those products of cultural significance such as magazines and T. V. programs. However, the vast majority of imports or potential imports such as agricultural and manufactured products have no cultural significance since the items are similar or the same whether they are produced domestically or imported. There exists a belief among many Canadians that the ownership and control of Canadian firms by U. S. residents threatens the political independence of Canada. Even if this belief is justified, the only implication is that the nature of capital inflows from the U. S. should be altered by government policy and that, possibly, the inflows should be reduced. Should a reduction of capital inflows occur, the result would be a balance of payments deficit which would in turn make necessary a reduction in the price of the Canadian dollar in terms of the U. S. dollar. This is purely a technical adjustment which has no implications with respect to the kind of agricultural policy, or tariff policy which should be followed.



of payments equilibrium is largely technical although it does have implications with respect to efficiency and distribution.<sup>1/</sup>

Agricultural policies do not conflict with a policy of maximizing the gain from trade unless they in some fashion disturb the pattern of trade that would result from pricing in accordance with long-run supply and demand forces. The agricultural policies which do this to an important extent are those that involve government manipulation of the prices of farm products. As was indicated earlier, every price support policy involves either a government induced reduction of imports or a government subsidy on exports unless the commodity involved is one which, because of high transport costs, would not be traded in any event.<sup>2/</sup> As a result of

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<sup>1/</sup> The use of exchange rate variation in maintaining balance of payments equilibrium enables the maximum efficiency of resource use. Although exchange rate appreciation tends to redistribute income from the producers of internationally traded goods to producers of untraded goods while depreciation does the opposite, it is difficult for any group to argue that they will be hurt in the long-run from such a policy since both appreciation and depreciation are likely to occur over a period of years. The use of direct controls to maintain balance of payments equilibrium involves a loss of the gains from trade since direct controls over imports channel resources into the production of goods for which the country is at a cost disadvantage. Direct controls redistribute income to the resources in the import competing goods industries when the controls are established and away from the resources in these industries when the controls are removed. The use of inflation to remove balance of payments surpluses redistributes income from creditors to debtors, while the elimination of deficits by deflation wastes resources by creating unemployment and puts much of the cost of this inefficiency upon the unemployed themselves.

<sup>2/</sup> The fact that a product is not currently traded does not mean that it would not be traded in the absence of government interference.

restrictions on imports, resources are maintained in the production of import competing goods which could be obtained abroad at less cost by using the resources to produce an export good and trading for them. Through subsidization of exports, resources are being used to produce additional exports at a cost of production which exceeds the value of these goods to the country on the export market. Such interference in international markets also would have an indirect cost in that it prevents Canada from obtaining tariff reductions from foreign buyers. To the extent that such tariff reductions would result in higher prices for Canadian exports or lower prices for imports, it is in the interest of the country to obtain them. And it is difficult for Canada to persuade others to do something she is unwilling to do herself. One gets the impression from the popular discussion in Canada that there exists a widespread belief that an increase in exports is in itself good, and that an increase in imports is good only to the extent that it is necessary to make concessions on the import side in order to export more. If efficient use of Canadian resources is desired, this belief is almost completely wrong. The country gains from additional exports only if it can produce these goods at a cost of production which is at or below the world market price. For the products relevant to this discussion, it will pay producers to produce and export commodities to the same extent as it will pay the country as a whole. This is because all costs associated with producing the goods must be covered by producers and all gains to the economy as a whole from the sale of the product will accrue to producers. Expansion of exports beyond the profitable point as a result of direct or

indirect export subsidies wastes resources since it costs more to produce the goods than the country can sell them for. Similarly, there is no gain from contracting imports and replacing them with domestic production unless it costs more to obtain these goods on the world market than to produce them at home. Indeed, to the extent that Canada can replace high cost domestic production with lower cost imports by reducing tariffs, it is in her interest to do so even without any concessions on the export side by foreign governments. With respect to exports, one frequently encounters the argument that Canadian agricultural exports should be subsidized in order to make it unnecessary for farmers to have to "compete with national treasuries." Without denying the fact that foreign export subsidies hurt Canadian farmers, it should be pointed out that Canada can only lose by countering these foreign policies with an export subsidy program of her own. It does not pay the country to produce products at a cost in excess of the world market price, regardless of how this price is determined.<sup>1/</sup> Such a policy is tantamount to giving goods away. Canada should not give goods away just because other countries are willing to do so. In recognition of the gains from efficient resource use on the one hand, and the desire of the community to compensate farmers for "inequities" resulting from foreign export subsidies on the other, Canadian policy makers could well afford to devote considerable ingenuity to devising politically acceptable methods of

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<sup>1/</sup> This does not imply that the Canadian Government should not try to get the highest price possible for exports (and the lowest possible price for imports).

compensating farmers without, at the same time, giving goods away. Such compensation would have to take a form which would not directly affect production incentives.<sup>1/</sup>

Certain kinds of price stabilization policy may also interfere with the trade pattern. Short-term restrictions on imports as well as policies of maintaining prices temporarily by government purchases will have this effect. Deficiency payments in particular periods not announced in advance will not disturb the pattern of trade since they will leave domestic consumption and production unaffected. However, to the extent that deficiency payments are made in adverse years but no equivalent tax is levied on producers in good years, the average price to producers will be higher, production will be greater, and some disturbance of the pattern of trade will result.

Agricultural policies do not interfere with foreign aid objectives unless they have the effect of preventing the aid from taking a form which will be most conducive to long-run increases in incomes in the poorer areas of the world. Economists do not have a satisfactory answer to the question of why some countries experience rising per capita income while others do not. Nor are they certain about the way in which per capita incomes in the less developed areas can be increased. However, it is apparent that long-term gifts of food are not likely to be one of the more effective ways of raising

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<sup>1/</sup> Preferably, such compensation methods would not affect production incentives at all, but this is too much to ask.

per capita income in these countries.<sup>1/</sup> In such countries, population tends to expand to the point where diets are at a minimum level of nutrition. An increase in the food supply or a direct gift of money thus tends to increase population rather than the level of nutrition. The use of underdeveloped countries as a dumping ground for surplus agricultural production is therefore not likely to improve their per capita incomes as much as alternative forms of aid.<sup>2/</sup>

Agricultural policies can interfere with the maintenance of balance of payments equilibrium to the extent that a preoccupation with agricultural interests rules out certain methods of adjustment. For example, it would be in the interest of agriculture to keep the currency undervalued, thereby maintaining the prices of farm products in Canadian dollars artificially high. The result would be a surplus in the balance of payments which can only be removed by allowing the internal price level to rise through an expansionary monetary policy. This would, of course, wipe out agriculture's advantage since the prices which would rise would be those of untraded goods, farm prices being determined on the international market. The only alternative to inflation would be a perpetual accumulation of foreign exchange by the Exchange Equalization Fund. This involves a perpetual low

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<sup>1/</sup> Gifts of food in times of disaster are excluded from the argument.

<sup>2/</sup> It is not entirely clear what alternative forms aid should take. However, literacy programs, technical training, and investment in roads and other social overhead capital would appear to be more effective in raising incomes in the long-run than gifts of food.

interest loan to foreigners.<sup>1/</sup>

Another area of conflict, or perhaps more correctly confusion, between agricultural policy and balance of payments policy arises out of the political reluctance of governments to devalue or appreciate their currencies in foreign markets. Given this reluctance, it is easy to fall into the trap of evaluating internal policies in terms of the degree to which they improve the balance of payments. Increased exports thus become good for the economy, and increased imports bad. For example, it is currently popular to laud wheat sales to Communist China on the grounds that they improve the balance of payments situation. The main advantage to the country, however, of the wheat deals with Communist countries is that they enable Canada to sell wheat at a higher price than she would otherwise be able to. The higher price, of course, makes it profitable for farmers (and the economy as a whole) to produce more wheat than they otherwise would. The fact that it makes it less likely that the Canadian Government will have to make a difficult decision to devalue the dollar is at best a minor fringe benefit. Indeed, it may be a fringe cost since increased exports makes it more likely that in the future the dollar will have to be appreciated. The situation where the tendency to evaluate policies in terms of their balance of payments effects really gets one into trouble occurs when, through developments in the foreign market, the exports of wheat or a whole group of products

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<sup>1/</sup> Another alternative would be to remove tariffs and other direct controls. To the extent that this is desirable, it should be done anyway.



decline. Then one tends to encounter the argument that the government should subsidize, say wheat exports, in order to protect the balance of payments. The result is waste and inefficiency since resources will then be used to produce additional wheat at a cost in excess of what the country can obtain for it on the world market. A policy which is much more wasteful, and which has more drastic political implications, is deflationary monetary and fiscal policy, often referred to by the words "austerity" and "belt tightening". Imports are reduced and balance of payments equilibrium is maintained by reducing the level of employment and income. It is certainly less costly in terms of resource use to let the exchange rate perform the function of maintaining balance of payments equilibrium.

In concluding this section it should be emphasized that there are many areas of current Canadian agricultural policy which involve only minor conflicts with international policy objectives. The major conflicts arise with respect to price support policy, of which Canada has to this date made rather limited but increasing use.

#### IV. THE GOALS OF AGRICULTURAL POLICY: RECONCILIATION WITH TRADE POLICY OBJECTIVES

In line with the classification of policy goals outlined earlier in the paper, it is useful to evaluate some of the current and proposed policies in terms of the twin goals of maximum efficiency and equitable distribution. Setting distribution considerations aside for the moment, it is possible to defend a number of the current agricultural policies on the grounds that they increase the efficiency of resource use in Canada. Research and extension

policies can be defended on these grounds as long as the resulting productivity change brings about sufficiently higher returns to the resources to cover the costs to the government of these activities. Certainly most economists would agree that there are substantial gains to the economy as a whole from research and extension activities. In a free enterprise environment, it will never pay private individuals to conduct these activities because it is difficult if not impossible for them to collect a fee for their services. New ideas, once they are known become freely available to everyone. For example, if an extension agent shows a new technique to a farmer for a fee, there is nothing to stop neighboring farmers from copying the technique, and the agent can never collect the full value to society of his advice. The broad area of policy which involves the education and retraining of rural people and the implied subsidization of migration off farms is also, I believe, quite defensible on efficiency grounds. A number of economists have convincingly argued that the rates of return on investments in human capital are high. While economists by no means fully understand the forces which lead people to develop human skills, there is certainly little evidence to suggest that the market place leads to an efficient allocation of resources in this area. To the extent that improved allocation of resources can be achieved with respect to investment in humans, a higher and more optimum rate of economic growth will result. The Agricultural Rehabilitation and Development Act can provide an appropriate framework for this type of policy.

A number of direct assistance policies, such as acreage payments to

grain producers and P.F.A.A. are practically neutral with respect to their effects on resource use. Others may be somewhat difficult to defend in terms of an efficiency argument. At a time when the prices of agricultural products are declining, and can reasonably be expected to decline in the future, the prospective returns to the economy as a whole from the redevelopment of sub-marginal land and the construction of irrigation and drainage facilities would not appear to be large. Moreover, given government aid in providing an appropriate legal framework, there would appear to be nothing to prevent private individuals or unsubsidized cooperatives from buying up marginal land and developing pastures for their own use or for rent to their neighbors. The fact that subsidies are necessary to bring about these improvements suggests that for many projects the costs involved may fall somewhat short of the returns.

Those policies which involve the manipulation of prices almost invariably result in a misallocation of resources. For example, feed freight assistance results in the provision of feed to eastern and far western livestock producers at a price below the real resource cost of getting it there. The result is an expansion of livestock production in these areas to a point where the cost to the economy of producing the additional output is greater than the price consumers are willing to pay. An exception results in the case of some price stabilization policies where the government has more information about the future trend of prices than private producers. In this situation, stabilization policy can lead to an improvement of efficiency since an important resource, namely information, is being more fully

utilized. Policies which have the effect of raising prices above their long-run equilibrium levels nearly always waste resources. Without limiting the generality of my remarks, the dairy policy can be used as an illustration. There can be little doubt that deficiency payments on the output of manufacturing milk consumed domestically (or on any portion of output), will lead to an increased supply of manufacturing milk. Farmers who were about to leave agriculture will remain. Investments in equipment that would not be profitable at lower prices will now be undertaken. It is more feasible for farmers contemplating changes in their production plans to shift toward milk production and away from the production of other commodities. Without the increase in prices, this increase in supply would not occur. Yet, it is clear that consumers, either domestic or foreign, do not desire an increase in the output of Canadian manufacturing milk, or they would spend more on the products which are derived from it. The result is the use of resources to produce output additions which are worth less to the economy than the cost of producing them.

While there is plenty of room for criticism of Canadian agricultural policies in terms of their bad resource allocation effects, it should be pointed out that the Canadian record is very good on this score when a comparison is made with the policies of other countries, particularly the United States. This is because Canada has not, at least until recently, engaged in substantial de facto price support activities.

Now let us set efficiency considerations aside, and look at agricultural policy from the point of view of distribution. In many respects,

distribution considerations have been the major motivating force behind agricultural policy not only in Canada but in other countries as well. Whether or not the distribution effects of a policy are desirable depends upon whether the policy redistributes income in the direction in which society wants to redistribute it. The way in which income ought to be distributed depends ultimately on the value judgments of the community. It is therefore useful to explore the consistency of the various policies with alternative sets of value judgments which the community, or members of it, might have.

The general distribution goals of agricultural policy tend to be categorized by the cliché "fair share of the national income." What can one interpret this to mean? Presumably, individuals in agriculture get less income than they deserve? But why do they deserve more than they get? One possible interpretation is that people should get paid in accordance with the contribution of the resources they own to the national welfare and that the resources in agriculture contribute in excess of what they get paid. It is difficult, however, to defend this argument with economic analysis. The prices received on the market for farm products, since they represent what consumers are willing to pay, are a reasonable indicator of the value the community places on additional production of these goods. It has been argued that agricultural products are worth more than indicated by prices received because of the effect on these prices of the limited number of buyers (or more correctly processors) and the possibility of collusion among them. While some lack of competition among buyers is undoubtedly present,



this could not account for the wide disparity between farm and non-farm per worker incomes, not only in Canada, but in other developed countries as well. Nor could it account for the general declines in the prices of farm relative to non-farm products which have taken place in recent years. The relative declines in farm prices are the result of a combination of two forces -- first, through productivity change both in Canada and in the world at large, the supplies of agricultural products tend to expand, at constant prices, at least as fast as the supplies of non-farm products, and second, as income rises, consumers tend to spend a smaller fraction of their income on food with the result that the demand for farm products tends to decline relative to the demand for non-farm products. Since at constant prices the supply of farm products is increasing faster than the demand, farm prices must fall. This merely indicates that, given the improved technical conditions of production and the limited capacity of the human stomach, society tends to place a lower value on additional units of food production as the economy grows. The declining prices of farm products have the effect of forcing labor and other resources out of food production and into the production of the more desired manufactured and service items. The lower level of per-worker income in agriculture may be partly the result of the fact that labor can move out of agriculture only slowly with the result that surplus labor tends to accumulate on farms. However, the fact that the ratio of farm to non-farm per worker incomes has remained more or less constant as most advanced countries have developed even in the face of substantial outmigration of labor suggests that while migration tends to



keep this ratio constant, it has not in the long-run been successful in substantially increasing it. This suggests that surplus labor in agriculture may account for only part -- maybe a very small part -- of the difference between farm and non-farm incomes. A substantial part of this difference may be accounted for by the generally poorer level of education among farm people, and the consequent lack of skills necessary to produce a high level of income, either in agriculture or elsewhere in the economy. People may remain in agriculture earning low incomes because the alternative incomes they could earn elsewhere with their given education and skills is equally low. In other words, agriculture tends to have a disproportionate share of the poor, individuals who through lack of education and productive skills, have very few resources to sell. The notion that the differences in income between agriculture and the non-farm sector are due to differences in human capital rather than low farm prices gains additional credibility when one observes that the substantial price support activities of the U. S. government have scarcely made a dent on the problem of low farm incomes in that country.

Another possible interpretation of why farmers deserve more than they get is that agriculture has many poor people and that people should get paid not in accordance with what they produce, but in accordance with need. The argument thus becomes one in favor of a more equal distribution of income. Direct payments to farmers which are more or less equal for all recipients tend to satisfy this distribution goal in two respects. First, they involve a redistribution of income from a high to a low income sector.

Second, a substantial part of the assistance goes to the low income farmers since the subsidy makes up a higher proportion of the income of the low-income than of the high income farmer. The benefits of research and extension activities probably go to the more well-to-do individuals in agriculture since they are likely to have the skills and the initiative to make quick use of new techniques. Export promotion, price stabilization, and price support policies, while they represent transfers of income from a high income to a low income sector, tend to give benefits to farmers in proportion to their marketings so that the rich and the poor in agriculture tend to gain more or less proportionally. These policies are therefore not particularly successful in helping the poor in agriculture, since for every dollar given to the rural poor, several dollars are redistributed to the well-to-do. Moreover, price supports have the additional disadvantage that they tend to get capitalized into the value of land. The result is that the owners of land at the time the policy is initiated tend to get the benefits not only of the current but of future price supports. Subsequent generations of farmers end up purchasing the capitalized value of the future price supports when they buy their land. Those who own no land at the time the price supports are initiated, many of whom are among the less wealthy, get little benefit.

The elimination of poverty should be given high priority by those who believe in a more equal distribution of income. While a straight redistribution of funds from the non-farm sector to the rural poor will mitigate temporarily the inadequate standard of living of this group it does nothing to eliminate the fundamental causes of poverty. These, I believe, are rooted

in the inadequate investment of these people in the human skills necessary to produce a decent standard of living in any sector of the economy, which is in turn a consequence of the higher cost of good education in the rural relative to the urban areas, combined with some cultural factors which mitigate against the full use of existing facilities and the development of better ones.<sup>1/</sup>

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<sup>1/</sup> Education tends to be more costly to farmers than those in the non-farm sector for two reasons. First, while child labor laws and other factors prevent young people from working in the cities, farm children can be productively employed for the benefit of the family. The cost of education to a rural family therefore includes the sacrifice of income that could be earned by keeping the young person on the farm. Second the costs of getting to and from school are greater. Not many years ago, highschool students had to be boarded out in the nearest city during the school year. Not only is education more expensive for farmers than urban workers, but farmers tend to have larger families. There are economic reasons for this. Farm children can work to help support the family. Food, a major area of expenditure in large families, can be grown cheaply on the farm with the help of younger members of the family. The wife can work on the farm and maintain close contact with the children, whereas in the city an additional child reduces the wife's earning capacity by keeping her in the home for a few years longer. As a consequence of these factors children are cheaper to raise on a farm than in the city. When one considers this together with the fact that education is expensive in rural areas, it is not surprising that farm people tend to have larger less well educated families than city people. Nor is it surprising that farm income per worker tends to be lower than non-farm per worker income, since those who remain on farms will tend to be less well educated and have less human resources than those who are raised in and working in the city. Although differences in family size can be rationalized on the basis of economic considerations, this does not preclude the possibility that lack of information about and appreciation of the value of education, together with other cultural influences, play an important role in bringing about larger less well educated families in agriculture. For example, the above economic argument does not rationalize well the differences in education and family size between rich and poor in urban areas.

Not only are programs for the improvement of the education and skills of rural people likely to increase the efficiency of resource use, it is also likely that such programs, appropriate within the framework of A.R.D.A., will make the distribution of income in the Canadian economy more equal by raising per worker incomes in agriculture. It should also be kept in mind that, although agriculture contains a large fraction of the nation's poor, anti-poverty programs should not be restricted solely to the rural sector.

If one believes in equality of income distribution and redistribution on the basis of need, there is no necessary conflict of agricultural policy with international trade policy. Agricultural policies which seriously conflict with international policy -- namely price supports -- are also inconsistent with these basic redistribution objectives of agricultural policy.

Under what kinds of equity principles can one justify the distribution effects of price support policy? It could be argued that the function of government in the area of income distribution is not to redistribute income from rich to poor or to ensure that individuals get paid in accordance with the contributions of the resources they own to the national welfare, but to maintain the distributional status-quo -- that is, to compensate individuals, be they rich or poor, for the adverse effects of economic changes which are beyond their control.<sup>1/</sup>

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<sup>1/</sup> This, of course, begs the question of what is to be regarded as the status quo.

It would be argued that farmers, through no fault of their own, are being adversely affected by declines in the prices of products they sell, and that the government should act to offset such changes in producer prices. Of course, one must be willing to apply the same principle to individuals in all areas of the economy. Thus, an equitable application of the principle implies that tariff protection should be given to industries which are under pressure from import competition and subsidies should be granted to export industries which are faced with loss of markets.

If such a principle is applied in this manner to all segments of the economy, there is again no necessary conflict between agricultural and international policy objectives. The desirability of obtaining the gains from trade rests upon the efficiency of resource use that results from international specialization. Yet efficiency within the domestic economy is as important, if not more important, in getting the maximum income from given resources as international specialization. Willingness to compensate all individuals for adverse price changes by means of opposing government induced price changes implies a choice of distribution objectives over efficiency objectives such that maximizing the gain from trade can no longer be a goal of international trade policy. The conflict is, therefore, not between agricultural policy and international policy objectives, but between efficiency objectives on the one hand and distribution objectives on the other. Conflicts between agricultural policy and international economic policy only arise when one tries to have free trade in one place, and restricted trade in the other. Such conflicts arise out of the political



pressures of the various special interest groups in the formation of national goals. For it is in each group's economic interest to have protection for itself and free trade for everyone else.

Are the conflicts between efficiency objectives and certain distribution goals unresolvable? As long as one is willing to tolerate some inefficiency in resource allocation (and in practice not all inefficiencies could conceivably be eliminated), the answer is no. For those who find the distribution effects of tariffs, price supports, and other interferences with free pricing desirable, there are some ways of getting the desired distribution effects while minimizing the losses in terms of efficient resource use. Direct lump sum subsidies which are independent of current output in an industry can be given in such a way as to increase the incomes of the recipients in the same manner as price policies. For example, direct payments can be given to farmers in proportion to the sales off the farms they own in some fixed period in the past, or in proportion to the amount or value of land they own.<sup>1/</sup> This would redistribute income with a minimum

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<sup>1/</sup> For example, if one wishes to subsidize wheat producers, the average value of marketings of wheat by farm during the past ten years can be calculated and farmers can be given an annual lump sum payments equal to some percentage of the average value of their sales during this period. As long as the period on which the subsidy is based is never changed, or changed very infrequently without advance notice, there would be no incentive to increase wheat production and the current cost, price and trade structure in wheat would be unaffected. To the extent that the incomes of farmers are increased, there may be a tendency for those who would migrate to remain on farms. This would result in some inefficiency in the use of resources, but not nearly as much as under a price support system.



sacrifice of domestic efficiency and with minimum interference with free trade. Similar subsidies could be given to other industries which might suffer from adverse economic changes. Of course, many would immediately reject the above approach on the grounds that it is not politically feasible -- that the voter would not accept it. If this is true, the political acceptability of indirect subsidies through government induced price changes, which have the same distribution effects and worse resource allocation effects, must be based on voter ignorance of the true redistributions which result from such policies. Policies which depend for their support on voter ignorance are difficult to justify on grounds other than political expediency.

# CHANGES IN AGRICULTURAL PRODUCTIVITY IN THE SOVIET UNION

by

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## INTRODUCTION

An intelligent discussion of Soviet foreign trade policies in agricultural products requires some understanding of the main characteristics of Soviet agriculture and knowledge about the levels of its performance.

Soviet agriculture is performing its task within a particular institutional framework and under the guidance of decision-makers who follow certain economic objectives. The process of agricultural production and distribution of output takes place within a centrally planned economy. The awareness of the above-mentioned conditions is helpful in understanding both policies and performance, while the economic analysis of Soviet agriculture per se does not require any special tools differing from the ordinary analytical apparatus of economists.

For a brief review of some important features of Soviet agriculture it is convenient to begin with the characteristics of the major inputs in agricultural production, land, labor and capital, and follow this by a discussion of the methods of organizing these inputs in the socialized and private household sectors of agriculture. Inquiry in the level of agricultural production and composition of output will provide the necessary information and basis for judgment. A review of Soviet agricultural procurement and price policies and of the relations between domestic supply and

foreign trade appears to be pertinent to the specific topic of the paper and to the deliberations of the Conference. Finally, a note on the grain trade between the Soviet Union and the East European countries of the Soviet bloc, which describes the area of most active trade in agricultural commodities for the Soviet Union is put into the appendix.<sup>1</sup>/

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<sup>1</sup>/ See Appendix A.

## I. LAND

The land mass of the Soviet Union extends over most of the East European plain and includes the northern part of the Asian continent. Its climatic and soil conditions are relatively unfavorable for agricultural production. The coincidence of high temperatures and insufficient precipitation during the growing season on one hand, or high precipitation coupled with low temperatures is typical for most of the agricultural belt of Russia (the so-called triangle, with the base at the western boundary stretching from the Baltic to the Black Sea, and narrowing as one moves eastward). In addition the frequency of winter killing, droughts, etc., increases the uncertainty of a sustained level of output or stability of yields.

The policy of the Soviet government (which in this respect continued in the footsteps of its Tsarist predecessors), has been consistently to increase the area under crop cultivation as the most important measure to meet the demands of an increasing population. The most recent and also most spectacular feat was the ploughing up of a huge tract of marginal lands (over 38 million hectares) in the eastern part of the country within a relatively short period of about 3-4 years. The idea behind this spectacular "virgin and idle land campaign" by Khrushchev was not only to capture the possibly accumulated fertility of idle land, but was also based upon the observation of the inverse correlation of the drought cycle in the Ukraine on the one hand and in Siberia and Kazakhstan on the other. Thus the correct idea would be perhaps to assure a minimum supply by balancing the odds of two major grain-producing regions. The Soviet leaders, carried away by a few years of relative success, proclaimed the "new land" area's grain output as a most substantial permanent net addition to the grain supply, heavily

discounted the likelihood of droughts in this region -- and totally rejected the possibility that a drought in the "new lands" might coincide with a drought in another major region.

Although the expansion of the sown area was highly significant, the level of output expanded less in proportion because most of the "new lands" under cultivation were lower yielding than the "old" ones. The increase in the cultivated area took place not only at the expense of plowing up "new lands", but also by converting meadows into plowland and by radically decreasing the area under black-fallow.

The total sown area increased from 1913 to 1953 by 39 million hectares (from 118.2 million hectares to 157.2 million hectares) and from 1953 to 1964 by 55.6 million hectares (from 157.1 to 212.8 million hectares) including an increase in the grain area from 104.6 million hectares to 106.7 million hectares from 1913-1953 and from 106.7 million hectares to 133.3 million hectares in 1964.

The largest percentage increase took place in the area of feed (including yearly and perennial grasses and silage crops) which increased from 3.3 million hectares in 1913 to 28.7 million hectares in 1953 and to 53.4 million hectares by 1964.

Since the productivity of the area under the enumerated crops is still very low, one is tempted to raise the question about the over-all effectiveness of the cultivated land expansion.

Table 1  
The Growth of the Sown Area 1913, 1953, 1964  
(in million hectares)

	1913	1953	1964	Per cent increase 1913-1953	Per cent increase 1953-1964	Per cent increase 1913-1964
Total Sown Area	118.2	157.2	212.8	33	35	80
Incl. Grains	104.6	106.7	133.3	2	25	27
Incl. Industrial Crops	4.9	11.5	15.5	135	35	216
Incl. Potatoes and Vegetables	5.1	10.3	10.6	102	3	108
Incl. Fodder Crops	3.3	28.7	53.4	770	86	1,518

TsSU SSSR, Sel'skoe Khoziaistvo SSSR, Moscow 1960, p. 127.

TsSU SSSR, Narodnoe Khoziaistvo SSSR v 1964 godu, Moscow 1965, pp. 267-268.

The decrease of the meadow area and the substitution of plowland under feed crops yielded a relatively small net addition to the feed supply, one that would probably be smaller still if the improving of meadows could be considered as an alternative. The decrease of fallow land,<sup>1/</sup> a sign of desperation that marked the last years of the Krushchev era, particularly in the areas of little rainfall and considerable weed infestation of the grain fields, certainly had detrimental effect upon the total long-run grain yields.

<sup>1/</sup> The area under black fallow decreased as follows in (in million hectares)

1940 - 28.9 or 16.1 per cent of arable land	1958 - 24.0 or 11.0
1950 - 32.0      17.6	1959 - 22.3      10.2
1953 - 31.4      16.6	1960 - 17.4      7.9
1955 - 29.9      13.9	1961 - 16.1      7.3
1956 - 21.8      10.1	1962 - 7.4      3.3
1957 - 23.6      10.9	1963 - 6.3      2.8
	1964 - 11.6      5.2

TsSU SSSR, Sel'skoe Khoziaistvo SSSR, Moscow 1960, p. 126.

TsSU SSSR, Narodnoe Khoziaistvo SSSR v 1963 godu, Moscow 1964, p. 243.

TsSU SSSR, SSR v Tsifrakh, Moscow 1965, p. 71.



The expansion of the irrigated area within the Soviet Union, particularly in the arid regions of Central Asia and the Caucasus was of real significance. It was due to such measures that the Soviet Union achieved not only self-sufficiency in cotton, but became a cotton supplier for the other Eastern European countries. The preference given to crops in which an import substitution could be achieved is easy to explain and requires no comment. About half of the irrigated area is devoted to industrial crops and to the feed crops necessary for the crop rotation of industrial crops. As of now, the irrigated grain area has not become a significant factor in the increase of grain output, although some visionary plans for the future anticipate such a development.

Since the expansion of the irrigated area involved substantial capital investments, the plans for irrigation were never fulfilled and the targets never achieved within the planned time span. The tables in the appendix provide both a breakdown of the existing irrigated area as well as the relationship between the planned targets and actual performance.<sup>1/</sup> Although the expansion of the irrigated area permitted an increase in output, the existing state of the irrigation network, where large tracts of land are not utilized because of salination and up to 25 per cent of the water is lost because of filtration, has not realized its potential.

A few words are in order concerning another aspect of land improvement policies, namely land reclamation and drainage. The area requiring drainage in the Soviet Union is located in the northwestern part of the country, in the so-called nonblacksoil zone, which administratively encompasses the Baltic republics, Byelorussia, the North-West of the Ukraine

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<sup>1/</sup> See Appendix B, Tables IV, V.

and the western parts of the Russian Republic. There is common consensus among Western students of Soviet agriculture that relatively little was done in the past. As a result land with a considerable potential, in areas of high population-density, and close to consumer markets is being under or unutilized.

Experience with drainage and reclamation work, when combined with evidence of the distribution of fertilizer and priority of deliveries of agricultural machinery, leads to the conclusion that the Soviet policy-makers formerly had a clear preference for developing the land resources in the steppe and semi-arid regions of the country -- areas of level land and of lower population density. The Soviet government neglected the development of the nonblacksoil region, located in the forest and forest-steppe zones, where land was not uniformly level, was broken in many fragments, and had been a traditional area of livestock, flax and hemp rather than grains. Whether the source of the preference ought to be sought in the relative facility of mechanizing agriculture on the steppes, of creating large farm units specializing in grain and similar relatively less labor intensive crops, or in any other motive is not at all clear. It is, however, beyond any doubt that the failure to develop (or to restore, after the impact of collectivization), agriculture in the nonblacksoil region of Russia represented a mis-allocation of resources. With proper investment in land this area could have been restored to its place as the major dairy and livestock producing region that it had occupied prior to collectivization.

## II. THE AGRICULTURAL LABOR FORCE

The sheer size of the existing labor force in agriculture can best be estimated from the data of the 1959 census. According to these data, rural agricultural employment involved about 45.0 million individuals, of which 36.1 million were engaged in the socialized sector and 8.9 in the private household sector of agriculture. The Soviet official statistics estimated this labor force as equivalent to about 36.0 million yearly workers of which 30.0 million were employed in the socialized sector.

Since 1959 the labor force as well as labor inputs in agriculture decreased by approximately six per cent.

The relatively large agricultural labor force and the relatively low land-labor ratio can be explained by many historical, institutional and economic factors. But in this context even more significant than the size itself are certain characteristics of the existing agricultural labor force. Three such characteristics are worth looking at: namely the sex and age distribution of the labor force, the educational background, and the availability of skills. It is my contention that these characteristics explain more of the quantity and quality of the labor inputs than the size of the labor force. With regard to the sex composition of the agricultural labor force, it will suffice to indicate that due to war losses in the population on the one hand and forced industrialization policies on the other hand, according to the 1959 census, of the total employment in agriculture, women contributed 61.6 per cent, or 27.7 million out of the 45 million employed. In the socialized sector as a whole, 54.6 per cent of employed were women and in the collective farms 56.6 per cent were women, while in the private household sector the share of women was as high as 90.3 per cent.

The age distribution of the agricultural labor force is characterized by a relatively heavy representation of the 40-59 year bracket. Keeping in mind the above-mentioned sex-composition it may be of interest to point out that while 25.3 per cent of the total males were in this age bracket, 32.1 per cent of the agricultural labor force was in this age bracket; 37.0 per cent of all females employed were in this age bracket.<sup>1/</sup> The educational background of the collective farm labor force, which constituted 67 per cent of the total labor force in agriculture, is presented in Table 2.<sup>2/</sup>

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<sup>1/</sup> The percentages are derived not from the total agricultural labor force but from the data on employment in physical labor in agriculture, which constitutes 77.7 per cent of the labor force. See, TsSU SSSR, Itogi Vsesoiuznoi Perepisi Naselenia 1959 goda. Moscow 1962 Vol. I. pp. 136, 143.

<sup>2/</sup> There is no doubt that the educational background of the labor force employed in private household farming, which made up another 19.5 per cent of the total agricultural labor force, was most probably even lower than in the collective farm membership. On the other hand the educational endowment of the state farm labor force was above that of the collective farmers.

Table 2

Educational Background of the Collective Farm Labor Force  
According to the 1959 Census

Years of Formal Schooling	Males		Females		Total	
Less than 4 Years	4,263,773	32.4%	8,574,990	49.3%	12,838,763	42.0%
4-less than 7	5,408,675	41.1%	5,357,194	30.8%	10,765,869	35.2%
7-less than 10	3,276,789	24.9%	3,339,550	19.2%	6,616,339	21.7%
10 years and in- complete higher education	184,237	1.4%	104,361	.6%	288,598	.9%
Completed higher education	26,320	.2%	17,393	.1%	43,713	.14%
Total	13,159,794		17,393,488		30,553,282	

TsSU SSSR, Itogi Vsesoiuznoi Perepisi Naselenia 1959 godu. Moscow 1962.  
Vol. I. pp. 78-79, 112-114.

Although the level of schooling has somewhat improved since 1959, the rate of improvement is slow. We can therefore assume that the 1959 data are still relevant. According to the data, a large percentage (over 77 per cent) of the labor force had less than seven years schooling of which 42 per cent had less than four years of formal schooling. For anyone familiar with the recent studies in the area of the economics of education, the relationship between schooling and performance in agriculture, or the level of productivity (not mentioning the success as farm operator), is very close.<sup>1/</sup>

<sup>1/</sup> See the work of T. W. Schultz and others for U.S. agriculture. A recent study by a Polish agricultural economist indicated a strong correlation between the level of schooling and economic performance of the peasants in Poland during the last decade. See Zygmunt Malanicz, Wplyw Wyksztalcenia Rolnikow na Wyniki Ekonomiczne Gospodarstw Chlopskich, Warsaw 1965.



The last feature to be discussed in this context is one of skill availability. The data for particular farm occupations are not available for recent years and could be drawn only from the 1959 census. What is interesting, however, is that 24.1 million out of 33.2 million (which excludes the 8.9 million employed in the private household sector) were registered as field hands without any specialization in any of the various branches of agriculture.<sup>1/</sup> Perhaps the most revealing figures are the ones for April, 1965 which list in the socialized farms 2,245,000 tractor drivers and combine harvester operators and 849,000 lorry-drivers. Needless to point out that the narrow specialization in skill-training often precludes the possibility of a tractor driver's handling of a lorry. Thus, we are dealing with a minute nucleus (or shall I call it an island) of modernity in Soviet agriculture. A total of 3.1 million, or less than eight per cent employed, perform functions that are crucial for most crop-farmers in advanced countries.

There are other characteristics of the labor supply in Soviet agriculture that objective observers ought not to overlook: the impact of the climatic conditions upon the actual length of the work year, the short span of the seasonal peak in farm work, and the regional differences in the density of rural population. What appears from our short review of certain characteristics of the Soviet agricultural labor force can be summarized: the labor force is large by comparison with other advanced countries and constitutes at the present about 40 per cent of total employment. By comparison with other countries the Soviet Union is also at the disadvantage of having a very high percentage of women and a low level of

schooling in its agricultural labor force.

<sup>1/</sup> TsSU SSSR, Itoqi Vsesoiuznoi Perepisi Naselenia 1959 goda. Moscow 1962, Vol. I., pp. 123, 125, 127.



The real problem is one of scarcity of skills against the background of abundant labor resources. Modernization of Soviet agriculture will require a heroic increase in the level of training of more and better agricultural specialists.

### III. CAPITAL AND CURRENT INPUTS

The modernization of agriculture and the level of output depend to a considerable extent upon the magnitude and composition of the capital inputs. The increase in the stock of capital often indicates a number of important relationships existing in agriculture. Capital input has a direct impact upon the size of output; it is often used as a substitute for land and is the most common substitute for labor. In the Soviet economy, where the crucial capital investment decisions are made at the national level in a centralized fashion, the ratio of agricultural investment to total investment reflects the priorities of the decision-makers. Under the conditions of forced industrialization in the Soviet Union, agriculture was allocated a smaller share of investment than would be warranted by its share in GNP, national income or in total employment. Official data indicate that actual gross capital investment in agriculture constitute only about 15-16 per cent of total gross investment in the Soviet economy for the last decade,<sup>1/</sup>

<sup>1/</sup>

The share of agricultural gross capital investment in total capital investment in the Soviet Union was as follows for the various periods for which official data are available:

1928-1932 - 16.1%	1958 - 15.8%
1933-1937 - 12.6%	1959 - 14.9%
1938-1940 - 11.4%	1960 - 14.1%
1946-1950 - 12.8%	1961 - 15.0%
1951-1955 - 15.5%	1962 - 15.7%
1956 - 17.6%	1963 - 16.5%
1957 - 16.3%	1964 - 18.0%

Source: TsSU SSSR, Kapital'noe Stroitel'stvo v SSSR, Moscow 1961, pp. 58-59.  
TsSU SSSR, Narodnoe Khoziaistvo SSSR v 1964 godu, Moscow 1965, p. 514.

although the planned targets were usually somewhat higher. The major areas of capital investment in Soviet agriculture are buildings, machinery, equipment, workstock, and livestock. The investment in farm buildings, grain storage and elevators, irrigation and amelioration facilities (which are grouped together in the Soviet reports), still account for the largest, although decreasing, part of agricultural investment.<sup>1/</sup> The next category in terms of size is the one of investment in farm machinery and equipment.<sup>2/</sup> Since the investment data reflect gross investment one ought to be cautious not to assume that they represent net additions to the capital stock for any particular period. In fact during the last decade a very substantial part of the farm machinery investment outlays replaced the existing capital stock in farm machinery.<sup>3/</sup>

<sup>1/</sup> The share of this category according to official reports constituted the following percentage of total agricultural investment (livestock excluded) for the years for which data are available:

1928-1932 - 75.3%	1956 - 53.2%	1961 - 63.1%
1933-1937 - 70.4%	1957 - 51.9%	1962 - 62.9%
1938-1940 - 77.9%	1958 - 50.7%	1963 - 61.2%
1946-1950 - 65.8%	1959 - 58.5%	1964 - 60.7%
1951-1955 - 57.7%	1960 - 63.7%	

Source: TsSU SSSR, Kapital'noe Stroitel'stvo v SSSR, Moscow 1961, pp.152, 158-159.  
TsSU SSSR, Narodnoe Khoziaistvo SSSR v 1964 godu, Moscow 1965, p.518.

<sup>2/</sup> The share of investment in farm machinery and equipment in total agricultural investment (livestock excluded) was as follows:

1928-1932 - 23.2%	1956 - 44.5%	1961 - 33.3%
1933-1937 - 27.5%	1957 - 45.4%	1962 - 33.9%
1938-1940 - 17.3%	1958 - 46.5%	1963 - 35.5%
1946-1950 - 28.9%	1959 - 38.6%	1964 - 36.6%
1951-1955 - 38.0%	1960 - 33.3%	

Source: TsSU SSSR, Kapital'noe Stroitel'stvo v SSSR, Moscow 1961, pp.158-159.  
TsSU SSSR, Narodnoe Khoziaistvo SSSR v 1964 godu, Moscow 1965, p.518.

<sup>3/</sup> The importance of distribution of machinery supply between new additions and replacement becomes obvious in view of the following data for the period 1957-1963. During this period the larger part of farm machinery supply was used for replacement of older machines and a smaller part constituted a new addition to the stock of machinery.

SUPPLY OF SELECT FARM MACHINES FOR 1957-1963 (in 1,000).

	Total Supply	Replacement	Net Addition
Tractors	1,237	665	672
Grain Combine Harvesters	538	385	153
Lories	591	300	291

As indicated above, the published Soviet official data are insufficient to provide a more accurate distribution of agricultural investment by specific items. In addition, the data on existing capital stock are reported at their replacement costs, gross of depreciation. Thus in the absence of information about the age of the various components of the capital stock it is difficult to arrive at a meaningful estimate. A major revaluation of the capital stock (based upon a census in the state farms and the use of conversion coefficients for the collective farms) took place in 1962 and the official per cent distribution of the capital stock in the socialized sector among major categories is now available for 1962 and 1963.<sup>1/</sup>

The data on the distribution of the capital stock point to the fact that the state farms are equipped with more machinery than the collective farms, which might in part explain the differences in labor productivity between the two types of farm organization. Another feature implied, if not explicitly expressed by the differential in machinery endowment between the state farms and collective farms is the uneven geographic distribution of machinery, with heavy weight given the grain regions and particularly the so-called "new lands" areas. As a result of the investment policies there was insufficient substitution of capital for land (in spite of some achieve-

<sup>1/</sup> Per cent Distribution of Capital Stock in Socialized Agriculture, 1962 and 1963

Categories	Socialized Agriculture		Collective Farms		State Farms	
	1962	1963	1962	1963	1962	1963
Buildings	48.7	48.5	52.2	52.3	37.6	38.5
Machinery and Eq.	20.1	21.0	16.6	17.8	27.4	26.1
Transportation means	4.2	4.3	4.2	4.3	4.8	4.6
Workstock	2.2	2.0	2.4	2.1	2.3	2.1
Livestock	17.8	17.1	19.0	17.7	18.5	18.2
Others	7.0	7.1	5.6	5.8	9.4	10.5

ments in irrigation expansion), although the machinery inputs permitted the expansion of the crop area. Substitution for labor took place primarily in crop output but very little in livestock production. Mechanization in livestock production is at a minimum level and the increase in the socialized herd outstripped the construction of farm buildings to house the livestock. Another serious problem in Soviet agriculture is the degree of utilization of the capital stock. By some criteria the capital stock is used quite intensively. For years, Soviet agricultural economists pointed with pride to the fact that the average number of days worked per tractor was higher in the USSR than in any western country. What was omitted in the argument was the fact that it was a result of the insufficient number of tractors in the USSR and that they were describing a necessity rather than virtue. That the timing of farm operations and consequently the yields suffered, was not admitted until a few years ago. Thus when Soviet economists and politicians talk about the stock of 1,565,000 tractors, 523,000 grain combine harvesters and 956,000 lorries in Soviet agriculture, and are rightly proud of these achievements, one ought nevertheless not to forget that this stock of machinery as of January 1965 provides service to a sown area of 212.8 million hectares (1964 size) and that the units of machinery per unit of land are small relative to the more advanced countries of the west. There is, however, another feature of the utilization of machinery in Soviet farming for which the planning methods in Soviet industry must be blamed. For a very long period spare parts were not produced (it was more profitable for industrial enterprises to produce a whole new machine than spare parts). Therefore, the state of disrepair and of machine cannibalization assumed gigantic proportions. At best, farm machinery stock is underutilized at times when it is needed most. Thus the volume of capital investment in

Soviet agriculture is insufficient to enable a real intensification of agricultural production, and the existing stock of capital is often misallocated and underutilized.

A few words ought to be said about the state of one of the factors that contributed considerably to the development of agriculture in the advanced countries, namely, about certain types of inputs purchased by agriculture from the industrial sector. The availability of mineral fertilizers, insecticides and herbicides, of concentrated feed-mixes, enriched by antibiotics and minerals, opened new possibilities for agricultural production, increased efficiency in using inputs, and by saving labor and raw materials contributed to the rise of output as well as of productivity. Soviet agriculture has been slow to discover some existing opportunities and the benefits that can be derived from the use and application of such inputs. For reasons of political and economic priorities the specific branches of industry serving agriculture were neglected<sup>1/</sup> by the Soviet planners and decision-makers. The mineral fertilizer industry has received high priorities only recently and output is being substantially increased; the concentrated feed industry is now having a late start. But because of the faulty internal pricing system, the lack of sufficient incentives for the industries and the inefficiency of a cumbersome distribution apparatus, both the output and the utilization of existing production are lagging behind the promises of the planners and the expectations of the farm sector. As a result Soviet agriculture is as yet in no position to take full advantage of the quality improvements of the current inputs and to increase its over-all efficiency. As long as the industrial sector will not assure

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<sup>1/</sup> The tractor industry being an exception to the rule, possibly due to its facility of conversion into a military tank producer.



agriculture of a sufficient and steady supply of current inputs any attempt to intensify Soviet agriculture is bound to fail. What is said about the current inputs of industrial origin is also valid for such inputs as improved and hybrid seed, etc.

It was stated previously that the tendency was toward expansion of the sown area, treating general labor as an abundant factor and skilled labor as a scarce factor, and either limiting capital supply to agriculture or channelling it into limited areas or particular branches of agriculture. It was also pointed out that the supply of current inputs was insufficient and poorly administered. There is, however, a particular characteristic of Soviet policy and behavior with regard to the utilization of resources which supersedes the attitude and handling of each of the inputs.

It was until very recently that the Soviet planners left out from their considerations the very important (although elementary for other countries) idea of complementarity of inputs to achieve a certain level of output. In the plans and estimates of production as well as in the evaluation of particular projects the calculations were invariably made with reference to a single factor to which the expected production increase was attributed. Perhaps an example might illustrate the general notion. In considering a particular irrigation project, the expected increase in yield was due to one factor -- water. The fact that a combination of irrigation, larger norms of mineral fertilizer and perhaps insecticides might produce an effect higher than the sum of effects of the three inputs treated separately somehow did not enter the minds of the planners. To the extent that complementarity did not become a part of the economic calculus, resources were squandered and capacities remained underutilized; on the other hand coefficients were wrongly estimated by attributing the production



increase to one factor while ignoring the simultaneous application of other inputs, which did not figure in the original calculation. It is only very recently that the recognition of factor complementarity occurred and is slowly becoming integrated in the system of planning in Soviet agriculture.

#### IV. THE FARM ENTERPRISES

##### a. The Socialized Sector

One might, for reasons of exposition rather than analysis, try to distinguish between the "natural" conditions of Soviet agriculture -- including its land and labor resources, the limitations upon agricultural output set by climatic conditions, availability of capital and flow of current inputs -- and "institutional" conditions, which are chiefly a result of government policies. The distinction is obviously artificial, especially in a society where political motives and actions permeate most areas of economic and social activity, where levels or rates of investment as well as income distribution become a matter of centralized political decision. Nevertheless, it seems to be possible to isolate certain elements that could be directly attributed to the nature of the existing institutions and policies pursued by the government.

Among the latter I would single out the existence of two basic forms of agricultural enterprises, the State farms and the Collective farms. The principal feature of the State farm as an enterprise is that it is run very much along the lines of Soviet industrial enterprises using hired labor, deriving its investment from the government budget, transferring its profits to the Treasury and covering the deficit by government subsidies, when the output delivered to the state at set prices is insufficient to pay for the

total production expenses. The managers of the State farms are appointed by the central authorities and are responsible for fulfilling tasks as prescribed. The Collective farms are agricultural enterprises that occupy tracts of land, possess buildings, machinery and livestock, purchase other inputs and utilize the labor power of their members to produce agricultural output. They are managed by a chairman and council, officially elected by the members, but in most cases strongly recommended (appointed) by the regional party organization. The income derived from the sale of a part of its output is used to pay taxes, to pay for the current inputs, and to set aside investment and depreciation funds; the residual together with a fraction of output in kind is distributed among the labor force according to the relative shares of labor expended.

The leading principle of past agricultural policy was one of output maximization and it is only recently that the policy-makers became more cost conscious. The output maximization principle was accompanied until the end of the Stalin era by a policy of keeping farm incomes and farm investment low, thus siphoning off huge resources from agriculture to be used in the industrial sector of the economy. The over-all result at the end of the Stalin period was stagnation in the agricultural sector as the price paid for indiscriminate resource transfer out of agriculture. The new regimes following the death of Stalin tried to meet the demands of agriculture half-way. The flow of investment was increased and farm incomes were allowed to grow. But the basic structure of the collective farm system remained intact and some of its weaknesses perpetuated. Labor remuneration in the collective farms remained largely a residual payment; since its distribution among individual members does not reflect the effort of the individual and reflects more often the intensity of effort of the whole

collective or is even independent of it, attitudes of the labor force towards work in the collective farms have been poor. It is probably correct to assume that agricultural laborers preferred the work in state farms, which assured them of a regular money wage, over the collective farm membership, which involved many uncertainties as to the size of their remuneration. But, in addition to the formal differences in the organization of the two types of agricultural enterprises, there are very significant differences in the status, size, resource endowment and over-all treatment by the state between the collective and state farms.

The difference in status, a relic of the Russian past and a result of the dogmatism that elevated the industrial working class above all other classes of society, is expressed in the notion that state farm workers are considered a part of the "proletariat" and state farms represent "national ownership", while collective farms represent "co-operative ownership", which is by definition an inferior form of ownership and whose members are accordingly socially inferior. To the extent that the relative weight of the collective farms in the total socialized sector is decreasing continuously one might argue that the difference of status is losing its meaning in the long run. The other differences are, however, of a more substantive nature.

The average size of the 10,075 state farms (sovkhozy) was 8,700 hectares of sown area, while the average size of the 37,600 collective farms was 2,985 hectares of sown area. Thus the size of a state farm was 2.9 times that of a collective farm.

As far as the endowment in other resources is concerned, the average labor utilization is 721 average yearly workers per state farm. The 15.9 million collective farm households, or 418 households per collective farm supplied on the average about 432 year equivalents of agricultural work in the socialized sector of the collective farms.

The following are the average number of head of livestock in each of the state farms and collective farms:

<u>Average per State Farm (1964)</u>	<u>Average per Collective Farm (1964)</u>
Large, horned cattle - 2,201	967
including cows - 803	358
Pigs - 1,144	581
Sheep and goats - 4,378	1,409

Source: TsSU SSSR, Narodnoe Khoziaistvo SSSR v 1964 godu. Moscow 1965, pp. 391, 411.

Whatever inequality exists in the endowment of land, labor, and livestock is reinforced by the favorable treatment of the state farms with regard to supply of machinery and some current inputs, like feed and fertilizer. This preference is based not only upon the fact that state farms derive their financing from the state budget while collective farms have to purchase the machinery, equipment and other inputs out of their incomes, but also upon the often misleading notion that the state farms are much more efficient intrinsically and will utilize the capital and current inputs more effectively. As a result state farms are in a much better position than collective farms to modernize, mechanize and to use a much higher proportion of more highly trained agricultural specialists. If, in fact, the performance of the state farms falls short of the policy-makers' expectations, it is due to the

difficulties involved in the management of such large and frequently complex enterprises, and often due to the limits imposed upon the management's decision-making authority or to shortcomings in the system of incentives.

This raises a whole host of questions, of which perhaps one is of utmost importance, namely, the problem of optimality of farm size. It is an axiom of elementary agricultural economics that the optimal size of a farm (understood within a certain range and dependent upon level of technology, types of crops or area of specialization, etc.) might help to reach a higher level of output at the least costs. Soviet farm economists have for a very long time substituted a distorted version of "economies of scale" for the concept of optimality. According to their interpretation, almost by definition a 70 h.p. tractor was better than a 50 h.p. one, and a 3,000 hectare farm more efficient than a 2,000 hectare one by a wide margin. This notion, sometimes labeled "gigantomania", had its ups and downs, but was never given up or replaced by a rational attitude to use the concept of optimality, which would thereby help to determine the size of the socialized farms.

Only very recently were discussions started on the problems of the optimal size of farms for particular types of farming and particular regions of the country. So far the discussions have rendered arguments that justify the status quo rather than reflect serious study of the subject matter. The present notions of "most economical" (another expression for "optimal") farm size are very much out of line with our experience, not only in the sector of commercial family farms, but also with any type of corporate farms existing in the West. Until the Soviet farm managers and farm economists study and settle the problem of optimal farm size, which is not



an easy task in the absence of a relatively free market, they will follow the vicious circle of justifying bigger and heavier machinery as "best suited" for big farms and subsequently advocate amalgamation of farms into bigger units to "take full advantage" of the big machines, etc., etc.

Another aspect of farm organization in the Soviet Union which merits attention is the one of managerial decisions at the farm level. In terms of quality, state farm management is superior to the ones on the collective farms (although both are inferior to the quality of management in industry), but this does not necessarily imply that it is given more freedom of decision-making. The poor quality of farm management persisted and, in addition, an elaborate system of centralized control over even minute farm decisions was built up. Either detailed instructions of plowing, harvesting, etc., followed the prescribed output plan, or the plan for state procurement and deliveries was so rigid and detailed that it imposed upon the farms an output-mix that was far from the one farms would choose in the absence of commands and controls. One would assume that a prerequisite of intelligent planning and administration of agricultural enterprises would be the granting of a measure of autonomy that enables the local management to make decisions that would maximize the returns to the factors of production, at least to the extent that they are not at variance with the national interest.

#### b. Private Agriculture

The private economy of the agricultural or rural population plays an important role in the Soviet Union. But it is also an area of much uneasiness on the part of the policy-makers. The policy-makers attitude is rooted in dogmatic-ideological prejudices rather than in objections based upon any type of economic analysis. The major resources used in the private



economy are the following: 6.7 million hectares of land or about 3.1 per cent of total sown area, privately held livestock and some workstock; the most important among inputs being the work of 8.9 million collective farm members and state farm workers, 91 per cent of which are women who divided their work effort between the socialized and the private sectors, and feed obtained from their household plot and from the socialized sector. With these resources the private sector is still able to produce about 30 per cent (34.2 per cent in 1963) of the officially reported gross agricultural output or about 18-20 per cent (23.8 per cent in 1963) of the crop output and over 40 per cent (45.6 per cent in 1963) of the livestock output.

It is true that the share of the private sector in marketed output is only about 15-16 per cent, thus by its nature it is oriented primarily towards meeting the consumption demand of rural households.

The economic significance of the private sector concentrated as it is on the production of labor intensive crops and livestock products, potatoes, vegetables, fruits, milk, meats and eggs, goes much beyond its contribution of a share in the total marketings of these products. During the Stalin period the private economy provided the peasants with the bulk of their income, thus allowing the farms to pay an artificially low remuneration for the agricultural labor of their members. But much more significant is the fact that apart from grain and some feed neither the Soviet state nor the prevailing agricultural institutions were under any obligation to supply the rural population with food products. The reliance upon the output of the private sector (as much as it may have been detested by the policy-makers in their official pronouncements) allowed the socialized sector not only to market a high percentage of its output but also to achieve a

higher degree of specialization and increase productivity in various branches or agricultural output. Thus the private sector in Soviet agriculture, contrary to the views of some Soviet economists and policy-makers does not play an antagonistic role with regard to the socialized sector but is complementary in the sense that it enables the socialized sector to specialize, to economize on labor and to keep labor costs relatively low. The interesting feature of the private sector is that using very little capital the crop yields and the livestock output per unit of livestock are substantially higher than in the socialized sector. It is true that the labor inputs per unit of land and livestock are higher in the private sector but the level of productivity measured as output divided by the measurable inputs is not much lower on the tiny garden plots than on the giant mechanized farms of the socialized sector. Therefore, as long as the socialized sector of agriculture is not sufficiently supplied with capital and skilled labor and is not in a position to attract labor by the relative level of wages, its dependency upon the private sector will continue. This also might be the reason why any attempt to restrict the private sector, particularly of the collective farmers, had its repercussions not only in terms of decreased incomes of the farmers but in reduced incentives to raise productivity in the socialized sector. Any attempt to tamper with the private sector affected the complementarity of the two sectors and ultimately was bound to harm the socialized sector. Thus what has been described by one of my colleagues as the paradox of the "tractor and the hoe" actually represents two sides of one coin, namely, the problems of a socialized agriculture insufficiently endowed with capital and having a relatively abundant labor supply. In view of the above, the performance of the private household sector, starved of capital and current inputs even to a greater extent than the socialized sector, is truly remarkable.

## V. AGRICULTURAL PRODUCTION

Economists have, in the past, encountered considerable difficulties in attempting to estimate the size and composition of the Soviet agricultural output. The reasons are manifold, but the difficulty is based primarily upon the various degrees of accuracy and credibility of the officially published data.

It is generally believed that the output figures for agricultural commodities which are marketed in total and procured by the state to supply the food industry are by and large accurate and reliable -- at least their magnitude can be verified by the statistics of the industrial sector. The agricultural commodities, a large share of the output of which is used in the agricultural sector itself, are in a different situation. Data for the distribution between end-use and use as intermediate products are neither accurate nor available. Grains are in a separate category although; there is no doubt that the official grain figures have been inflated. The inflation took various forms. During 1933-1953 the "biological yield" was officially reported as output; during 1953-1963 the officially claimed "barn yield" was reported as output; in 1965 it was officially admitted that the "barn yield" was the volume "initially reported as harvested by the farms". It would take us outside of our main topic to go into an analysis of methods of independent estimation of the grain crop or of adjusting the data for losses, moisture content, impurities, padding of accounts, etc. It might perhaps suffice to indicate the range of disagreement by pointing out that for the years 1955-1963 the official estimate of yearly average of grain output was 121.1 million tons; the USDA estimate was 101.9 million tons and my own private estimate was 102.7 million tons. Thus the difference

between the official Soviet data and the two estimates which are very close to one another (although they involve more substantial differences for particular single years) is in the neighborhood of 18-19 million tons yearly. More important is the fact that most of the area of disagreement between the official Soviet estimates and the ones by the American scholars is about the output of food grains rather than feed grains, which would explain both the extreme sensitivity of the Soviet policy-makers to decreases in output and perhaps also the composition of their recent grain purchases in the west. In other words, the differences in the estimates of grain production affect the estimates of net grain output, the share consumed by the population, processed by industry and exported, rather than the estimates of gross agricultural output.

It is, therefore, assumed by most western scholars that the official Soviet index of gross crop output which for the years 1963-64 was 237 with the year 1913 as a base is grossly overstated (one of the means of overstating the current output has also been to understate the 1913 output used as a base). Most foreign scholars would probably agree that the present gross output is in the neighborhood of 170-180 with regard to 1913. This, in view of a population increase of 43 per cent, is hardly a record to boast about. Real growth took place in some of the industrial crops, notably cotton, sugar-beets and sunflower seed, in which the achievements are impressive. The growth of potato output signified the substitution of an inferior product for grain under conditions of a curtailed, insufficient grain supply. The growth of crops production of the commodities mentioned above was due to a combination of factors, of which the most important were expansion of sown area in regions with suitable climatic conditions, increase in yields attributed to the use of fertilizer and improved seed varieties,

and pricing policies that made it both profitable for the farms and remunerative for the labor force to increase output. Thus, the Soviet Union has achieved a relatively high yield of cotton (over 20 cwt/hectare of seed cotton), a high oil-content of sunflower seed (over 37 per cent of the dry matter), and an expansion of the sugar-beet raising area that made Russia self-sufficient in sugar (although at relatively high per-unit costs).

As far as grain and potatoes are concerned, the yields are very low (the lowest in Eastern Europe), with grain unable to cross (except for single bumper crop years) the 10 cwt/hectare level and potatoes still below the 100 cwt/hectare level. It will certainly require a considerable amount of mineral fertilizer and other additional inputs and organizational improvements to increase the level of yields. This is the type of policy that requires a longer time-horizon on the part of the Soviet planners than they have so far been willing to employ. But the decision to intensify agriculture is one that cannot be indefinitely postponed, and resources will have to be found unless agriculture is to become a constant drag upon the economic development of Russia. So far Soviet politicians and economists have paid lip-service to the idea in the abstract, trying to get by with the smallest possible real resource commitment; it will, however, become a test for the present leadership of the Soviet Union to introduce and execute a really new policy that will pay off in the long run.

The Soviet policy in increasing the output of livestock products put the cart ahead of the horse. Just as in crop production, where the stress was on the expansion of the sown area rather than on the increase of yields, so in the case of livestock the rise in numbers preceded the growth of the feed supply. After a short period, when as a result of the virgin



land program the total grain availability increased and the corn program resulted in a rise of corn silage output and a temporary rise in the feed supply, the feed supply fell short of the requirements for an increased volume of livestock products.

One of the striking features of livestock production is the very low feeding efficiency, or to put this in other terms, the very high feed intake per unit of livestock output.<sup>1/</sup> It is often blamed on the low protein content of the feed, low quality of the concentrates, succulents or coarse feeds.<sup>2/</sup> But whatever the reason, the Soviet Union has probably among the lowest feed conversion coefficients in the world. This was one of the many reasons that prevented Khrushchev from overtaking the United States in the production of livestock products. The productivity per head of livestock is quite low and improvements in breeding are at a primitive stage. As a result, per capita livestock output is still the lowest even among the East European countries.

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<sup>1/</sup> For 1962 the officially reported volume of feed per kg. of production in the socialized sector was in feed units (oat units); for milk 1.7; for beef (live weight) 12.2; for pork (live weight) 13.6. At such feeding rates all Canadian and U.S. livestock farmers would go bankrupt in one year. A Soviet source also reported that in the State farms during 1963 the daily weight of increment of beef cattle was 268 grams and the time period needed to fatten a pig until it reached 90 kgs. of live weight was 540 days. Ekonomika Sel'skogo Khoziaistva, No. 5, 1965, p. 20.

<sup>2/</sup> One might perhaps suspect that the faulty reporting of gross output inflates the availability of feed; results thus obtained would not reflect the actual situation, which might be more favorable as far as feeding efficiency is concerned.



VI. PROCUREMENT POLICIES, PRICES AND FOREIGN TRADE  
IN SOVIET AGRICULTURE

In order to understand and evaluate the performance of Soviet agriculture some attention ought to be paid to the pattern of distribution of output among the various claimants, and to the so-called "terms of trade" between the agricultural sector and other sectors of the economy. According to official calculations the share of marketings in the gross output increased from 32 per cent in 1913 to 45 per cent in 1953 and 55 per cent in 1962. Since the gross output is overstated, the share of marketings is probably higher. The major part of the agricultural marketable output is procured by the state.

The state procures all the cotton, sugar-beets, tobacco, most of the flax, hemp, sunflower seeds and wool -- in other words almost all of the output that is being processed by the food and textile industries. In the market for industrial crops the government is a monopsonist, the only buyer, and therefore determines the price. As far as other agricultural commodities are concerned, the share of government procurements in the marketable output is rising.<sup>1/</sup>

To the extent that the Soviet policy-makers' desire to control and increase the marketable agricultural output, played an important role among the motives to socialize agriculture, the goal was achieved. But if

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<sup>1/</sup> During the last decade the share of government procurements in the total marketings increased appreciably. For selected commodities the rise was as follows:

Grains from 86 to 93 per cent; potatoes from 45 to 63 per cent; vegetables from 49 to 72 per cent; meat from 66 to 80 per cent; milk from 77 to 91 per cent; eggs from 45 to 74 per cent.

TsSU SSSR, Narodnoe Khoziaistvo SSSR v 1964 godu, Moscow 1965, pp. 253-255.

the control over the marketable output was intended to stimulate production and increase agricultural output, the objective failed. It has failed, in my humble opinion, primarily because of the "terms of trade" imposed by the Soviet government. The other alternative to state procurements, the so-called "collective farm market", where agricultural products can be sold at prices that the market will bear, was under constant administrative control by the government, which limited not only the supply of the socialized enterprises to this market, but put all sorts of restrictions upon the major suppliers, the collective farm households. With limitations imposed upon the only alternative to state purchases, the socialized enterprises were at the mercy of the price fixing "rationale" of the state planners. During the Stalin period the procurement prices for most commodities (with the notable exception of industrial crops) remained unchanged at approximately the level of 1928, in spite of an at least ten-fold increase in retail food prices and prices of industrial goods. Thus a paradoxical situation arose where procurement prices for most commodities were virtually confiscatory and procurements a tax in kind. By 1952 the paradox reached the absurd state at which the government paid for the cotton procurements more than ten-times the sum paid for all the grain procurements in that year. This led to stagnation and an incentive crisis during the last years of the Stalin regime. The post-Stalin period witnessed a spectacular rise in procurement prices.<sup>1/</sup> Under Soviet conditions, where the government controls both the factor and product prices, the increase of procurement prices for the collective farm marketable output could result in a rise of the price of labor, or incomes of the farmers, provided the prices for other factors of production do not rise accordingly. Indeed between 1953 and 1957 the incomes of the collective

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<sup>1/</sup> See, Appendix B, Tables No. VI, VII.

farmers were rising, thus providing an incentive to produce more and work harder but since 1958 the prices of other factors rose rapidly and the price of labor did not increase appreciably, if at all. What followed was an increase in the costs of production, accompanied by a new crisis of incentives, which marked the end of the Khrushchev era. Characteristically the new leaders of the Soviet Union started their "term in office" by a repetition of the early Khrushchev measures, namely, both by removing some restrictions of the private household farming and increasing prices paid to the socialized farms for the procurement of agricultural commodities. On the balance, the "terms of trade" between agriculture and other sectors of the economy have improved considerably since the Stalin period, but in the process the incentives have so far been insufficient to influence the volume of output, and in the meantime the Soviet Union has become a high cost producer of agricultural products.<sup>1/</sup>

The distribution of agricultural output, particularly the targets for government procurements are influenced by the estimates of the following major end uses of the products: 1) Domestic direct consumption, 2) Industrial uses for domestic purposes, 3) State reserves, and 4) Foreign trade. Domestic direct consumption and industrial uses for domestic purposes both increase alongside population growth, urbanization and rise in the standard of living. At the present stage of economic development of the Soviet Union, the income elasticity of demand for agricultural products is still relatively high, somewhere between .6 - .7. The requirements of state reserves are considerable, particularly due to the political views of the Soviet leadership. The demand of foreign trade, or of the state monopoly of foreign trade upon the agricultural output are determined by political as

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<sup>1/</sup> See Appendix B, Table No. VIII.

well as economic considerations, the latter combining the long-run as well as the short-run interests of the Soviet economy. It is probably still correct to characterize the Soviet attitudes towards foreign trade as influenced by the desire for self-sufficiency in many products and a general distrust of the outside world, but we also have frequent examples of the Soviet Union entering foreign markets not for disruptive purposes, not by means of dumping, but to take advantage of particular market situations as one of many competitors. In the area of agricultural products the Soviet Union became, particularly during the last decade, a net exporter of cotton and grain. The Soviet Union entered the grain market, one of the more competitive segments of the world market, as the chief supplier of the Eastern European Communist bloc countries and made a number of attempts to penetrate the markets of its Scandinavian neighbors, of Western Europe and even of the Western hemisphere (Brazil being a case in point).

Tables IX - XII in the Appendix B provide some data about the order of magnitude involved in the Soviet grain exports during 1955-1964.<sup>1/</sup> For the period under consideration the yearly average of net grain exports was approximately 5.4 million tons of which over one million was feed grains, with the overwhelming volume in food grains. The range of net exports was from 2.7 million tons to 7.8 million tons. For the period 1955-1962, over 72 per cent of all wheat exports of the Soviet Union went to the East European bloc countries (for 1955-1963 the share would be 77.6 per cent). The rest was divided between exports to other countries maintaining close relations with the Soviet Union (Cuba is a more recent example) and to the

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<sup>1/</sup> The data reflect the extent of the massive 1964 grain imports but not, of course, the effects of the 1965-66 grain imports.

countries in Northern and Western Europe. Of those last mentioned, the only one in which Soviet exports predominate is Finland where proximity, political and economic dependence explain the prevailing situation.

What emerges from the inspection of Soviet grain exports is a picture of dominance in the market of the East European Soviet bloc. In most other instances the share of the Soviet exports in the importation of grain of the countries is relatively small. Thus, the Soviet Union appears to either enjoy its position as the major grain supplier in Eastern Europe or to be under some obligation to do it. As far as the markets outside of its sphere of influence are concerned, the Soviet Union appears to have behaved competitively in the recent past.

It follows from the previous description of Soviet trade policies in agricultural commodities that the Soviet policy-makers, by keeping domestic prices separated from world market prices and concentrating large quantities of food and fiber in the hands of the State are in a better position to meet foreign demand under conditions of fluctuating levels of supply; nevertheless they tend to operate within certain constraints. The major constraint is the demand for domestic uses, which is growing. The Soviet position in the world market for agricultural output depends upon the level of production. One could assume that within the foreseeable future the output of industrial crops will be growing, although future output will involve relatively larger inputs than in previous years. The crucial area will be that of grain. The facts of commitment of huge resources to the mineral fertilizer investment program presently under way and the almost irreversible nature of such a program indicate the determination to supply the Soviet grain area with an increasing volume of fertilizers. Provided that mineral fertilizers



and herbicides are used judiciously, in areas of their highest economic effectiveness, we could expect within the next 10 years the establishment of a level of grain yields of 10.5 to 11 cwt/hectare. On the assumption that the present crop area might contract to provide more fallow land in the eastern regions of the Soviet Union, I would still expect an estimated grain crop of about 126-132 million tons of usable grain.

It is obvious that this output level cannot be reached at once, and one would expect a gradual improvement over a longer period during which both the domestic demand and build-up of reserves would take precedence. It is not likely, therefore, that within the next five years the Soviet Union will regain or establish its place as a major grain exporter in the world market.

One could perhaps argue that on the basis of the pure theory of comparative advantage, the Soviet Union ought to specialize in the export of machine-tools and import grain. But on the one hand, our world does not in many respects conform to the competitive market model, and on the other hand, Soviet policy-makers would not "endanger their political independence by putting themselves at the mercy of the imperialists". Therefore, Soviet economic thinking and policy formulation even of the most "liberal" kind is directed towards studying the comparative costs of grain and oranges, which might lead to abandonment of autarky policies in oranges but certainly not in grains. Given the slow progress of Soviet thinking in the direction of free trade, and its dependence upon the experience of "peaceful coexistence", it would be difficult to predict the time schedule for any abrupt changes in the policies of the Soviet foreign trade monopoly. That the change might be slow, gradual and cumulative is the best that one could hope for.



## APPENDIX A

### The Grain Situation in the Soviet Bloc Countries

In most of the European Soviet bloc countries, except the Soviet Union, the output of feed grains exceeds food grain output. The only exception is Poland, but even there if the use of food grains for animal fodder is taken into account, the total consumption of feed from domestic sources exceeds the consumption of grains as food.

The increasing output of feed grains and its growing share in total grain production is a repetition of a process that started much earlier in Western Europe and still continues. It is in a sense a process of substitution of higher value products, animal proteins, for lower value products. From the available data for the Soviet bloc countries<sup>1/</sup> it appears that during 1950-1962 the per capita output of food grains was increasing in Bulgaria, Romania and Poland, while in Czechoslovakia, East Germany and Hungary it was declining. The evidence points to the fact that the acreage of grains and of food grains in particular within the bloc countries was declining over the last decade and a half. The main reason is probably the existing high labor-land ratio, which enables the production of more labor-intensive, but higher income yielding crops than an extensive grain economy. Thus one ought not to expect any increase of the food grain area in the European bloc countries. A higher level of grain output could conceivably be attained by either an increase in the level of yields per unit of land or by a change in the composition of the grain output by substitution of higher yielding crops for lower yielding ones, or by a combination of the two

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<sup>1/</sup> See, Appendix B, Table I.

factors mentioned. The official data <sup>1/</sup> suggest that the advantages (in terms of grain yield increases) from substitution of grains are very modest indeed. Although it is by no means suggested that the grain yields reached an absolute ceiling, it is probable that the increases of the wheat yields achieved cannot be easily repeated, while the most spectacular rise of corn yields probably exhausted pretty much the possibilities of yield increases due to the application of hybrid seeds.

Thus, in addition to limitations imposed by soil and weather, small additional increments over and above the 1957-61 level of yields can be achieved over the 1950-54 level. Huge amounts of mineral fertilizer, insecticides, and the application of modern agricultural techniques would be required to raise the level of grain yields. This is not to say that the incremental investments would be unprofitable; it is only to point out that it may tax more of the resources of the countries than their leaders might be willing to assign, particularly since the marginal rate of return might be lower than in the case of other alternative investment opportunities. Therefore, the European countries of the Soviet bloc decided to rely upon grain imports rather than to expand domestic production.<sup>2/</sup> One can view grain imports as a measure to save on investments in agriculture. Grain imports might also be viewed as a substitute for the import of livestock products, provided the countries have a relative advantage in livestock vs. crop production (such an advantage is claimed by Czechoslovakia and East Germany) in comparison with the Soviet Union. In some cases grain imports may serve to create an exportable volume of livestock products, particularly

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<sup>1/</sup> See Appendix B, Table II.

<sup>2/</sup> See Appendix B, Table III.

to the Western world, which would provide the necessary foreign exchange. The preference for the bloc countries to import grain from the Soviet Union was based upon the situation of their balance of payments (lack of hard currency or long-term credits) or of their trade balance.

While it is difficult for most bloc countries to obtain hard currency by competing in the Western markets with their exports of manufactured, industrial goods, therefore choosing to export high cost agricultural processed goods instead, they find in the Soviet Union an eager customer for their industrial goods. Thus they save hard currency, however earned, for the purchase of goods in the world market that are not obtainable from the Soviet Union and purchase grain from the Soviet Union for industrial goods that cannot be sold anywhere else. These are some of the constraints under which the Eastern European members of the Soviet bloc conduct their trade in grains. An additional constraint was added when the Soviet Union found itself unable to fulfil its long-term obligations with regard to grain exports to the bloc countries. The two available alternatives were for the Soviet Union either to purchase grain in the West against the payment from its foreign exchange and gold reserves and resell the grain to the bloc countries for "soft" currency, or to have the bloc countries obtain credits for direct purchases on the strength of whatever persuasion they themselves might possess. If we would assume that the Soviet Union will be in no position to enter the world grain market for the next five years, one cannot be so firm in the assertion that the same is applicable to Soviet grain exports to the bloc countries. There will probably be a strong temptation for political if not for economic reasons to recapture the grain market in the bloc countries. The safest assumption would, therefore, be to consider

the Soviet grain exports to the bloc as a function of the short-run fluctuations of Soviet grain output, and in the absence of long-term substantial credits to view Western grain exports to the bloc as a possibility but not as a certainty.

APPENDIX B

TABLE I  
Per Capita Output of Grains (in Kgs.)  
In the Eastern European Bloc

	1950	1955	1958	1959	1960	1961	1962
<u>HUNGARY</u>							
Total Grain	584	671	569	731	683	604	672
Including Food Grain	307	274	188	237	212	222	220
Including Feed Grain	277	397	381	494	471	382	452
<u>BULGARIA</u>							
Total Grain	430	560	503	621	611	544	547
Including Food Grain	278	279	314	325	313	263	265
Including Feed Grain	152	281	189	296	298	281	282
<u>ROMANIA</u>							
Total Grain	315	572	401	580	331	568	514
Including Food Grain	148	185	168	226	193	220	220
Including Feed Grain	167	387	233	354	138	348	294
<u>POLAND</u>							
Total Grain	463	473	468	480	480	515	474
Including Food Grain	335	332	333	359	342	371	308
Including Feed Grain	128	141	135	121	138	144	166

TABLE I (cont'd)

	1950	1955	1958	1959	1960	1961	1962
<u>CZECHOSLOVAKIA</u>							
Total Grain	379	388	357	405	419	400	409
Including Food Grain	207	185	169	192	175	194	184
Including Feed Grain	172	203	188	213	244	206	225
<u>EAST GERMANY</u>							
Total Grain	313	326	335	319	340	255	307
Including Food Grain	189	198	215	202	208	149	177
Including Feed Grain	124	128	120	117	132	106	120

Source: Mezhdunarodnyi Sel'skokhoziaistvennyi Zhurnal, No. 1, 1965, p. 5.



TABLE II

Average Yields of Grains (cwt/hectare) forSelected Years

	Bulgaria	Hungary	Romania	Poland	Czecho- slovakia	East Germany
<u>Wheat</u>						
1950-54	14.6	14.6	10.9	12.3	18.9	28.6
1957-61	16.9	15.9	12.5	17.2	22.2	30.9
1962	16.7	17.9	13.3	19.3	24.4	31.1
1963	15.9	15.6	13.2	19.9	24.6	30.0
<u>Rye</u>						
1950-54	10.8	12.0	10.2	11.9	17.0	21.0
1957-61	10.1	11.5	10.3	15.4	19.9	20.7
1962	8.2	10.0	9.9	14.3	20.8	21.4
1963	9.8	10.3	9.8	16.2	20.6	20.4
<u>Barley</u>						
1950-54	15.1	14.9	5.5	13.1	17.9	23.7
1957-61	19.5	19.4	14.3	17.5	21.6	27.9
1962	19.7	20.9	16.7	19.5	25.2	31.1
1963	18.0	17.0	15.8	19.8	23.5	28.2
<u>Oats</u>						
1950-54	10.3	11.5	8.2	12.8	16.1	24.9
1957-61	11.7	13.7	10.3	16.0	18.7	24.9
1962	7.4	13.7	9.6	17.2	20.2	28.3
1963	10.0	11.8	9.6	16.8	n.a.	25.6
<u>Corn</u>						
1950-54	10.7	18.9	10.6	n.a.	21.7	-
1957-61	19.2	23.4	15.0	25.4	27.4	-
1962	23.7	23.1	15.9	21.7	19.9	19.6
1963	26.2	27.6	17.8	20.0	29.8	17.6

Source: Mezhdunarodnyi Sel'skokhoziaistvennyi Zhurnal. No. 1, 1965, p. 5.

TABLE III

Share of Imports (-) or Exports (+) of Grain in the  
Food and Feed Grain Balance of Some Bloc Countries

	1950	1955	1958	1959	1960	1961	1962
<u>East Germany</u>	- 7.7	-18.3	-23.5	-21.7	-23.4	-27.3	-28.7
Total Grains							
Food Grains	- 5.1	-16.8	-27.9	-26.6	-29.4	-33.1	-33.7
Feed Grains	-11.4	-20.6	-14.0	-11.9	-11.2	-17.2	-20.7
<u>Czechoslovakia</u>	-10.1	-20.9	-26.3	-24.9	-25.1	-21.1	-18.5
Total Grains							
Food Grains	-16.2	-26.9	-30.1	-40.0	-40.0	-32.9	-25.8
Feed Grains	- 1.6	-14.7	+11.3	- 2.7	- 8.1	- 6.3	-11.5
<u>Poland</u>	- 1.8	- 8.3	- 5.7	-10.5	-12.3	-13.0	-13.7
Total Grains							
Food Grains	- 1.4	-11.2	- 8.3	-11.0	-15.0	-15.5	-15.7
Feed Grains	- 2.4	+ .1	+ 1.5	- 8.9	- 4.6	- 5.8	- 8.7
<u>Hungary</u>	+ 7.1	- .9	- 1.8	- 3.2	- 4.3	- 8.3	- 8.4
Total Grains							
Food Grains	+14.2	- 2.3	- 2.3	- 8.4	-11.5	-15.8	- 6.0
Feed Grains	+ .2	+ 3.9	- 1.6	- .5	- .6	- 3.2	- 9.5
<u>Romania</u>	+ 4.9	+ 2.4	+ 4.0	+ 2.1	+ 5.4	+ 7.7	+11.0
Total Grains							
Food Grains	+ 2.0	- 7.8	- 6.0	+ .1	- 1.7	- 5.2	+ .9
Feed Grains	+ 7.6	+ 8.1	+12.6	+ 3.5	+ 9.9	+17.8	+19.3

Source: Mezhdunarodnyi Sel'skokhoziaistvennyi Zhurnal. No. 1, 1966, p. 7.

TABLE IV  
Distribution of Irrigated Area 1957 and 1964  
(in 1,000 hectares)

	1957	1964
Total Irrigated Area	7,210	8,085
I. Including orchards and vineyards	468	769
II. Including pasture and meadows	443	307
III. Including household plots	442	401
IV. Including fallow	62	27
V. Including crops and sown area	5,795	6,581
1) Including grains	1,808	1,868
of which rice	106	186
2) Industrial crops	2,298	2,685
of which cotton	2,082	2,461
3) Potatoes, vegetables, melons	470	557
4) Fodder crops	1,219	1,471

Sources: TsSU SSSR, Sel'skoe Khoziaistvo SSSR, Moscow 1960, p. 258.

Zuzik D. T., Ekonomika Vodnogo Khoziaistva. Moscow  
1959, p. 65.

Vestnik Statistiki, No. 7, 1965, p. 10.

TABLE V

Land Under Irrigation in the USSR, 1957 Area

1964 Results and 1965 Irrigation Target  
(in 1,000 hectares)

	1957	<u>1964 Results</u>	<u>Increase (Column II-III)</u>	<u>1965 Target</u>	<u>Difference (Column III-V)</u>
Uzbekistan	2,282	2,588	256	2,780	242
Kazakhstan	1,054	1,039	-15	1,250	-211
Azerbaijan	884	959	75	1,070	-111
Kirgizia	823	782	-41	930	-148
Turkmenia	398	507	109	555	- 48
Tadzhikistan	344	413	69	495	- 82
Armenia	183	185	2	220	- 35
Total Cotton Regions	5,968	6,423	435	7,300	877
RSFSR	819	1,084	265	1,100	-96
Ukraine	168	325	157	320	+ 5
Georgia	321	210	- 21	265	-55
Moldavia	24	44	20	70	-26
Total	7,210	8,085	875	9,135	1,049

Source: See Table IV.

TABLE VI  
Change in Average Prices Paid to Collective Farms and  
Private Individuals for Agricultural Procurements  
(1952 = 1.00)

	1953	1954	1955	1956	1957	1958	1959	1960
Grains	2.36	7.39	5.53	6.34	6.17	6.95	7.43	7.17
Wheat	2.45	7.52	5.24	6.47	6.03	6.21	6.56	
Corn	2.07	5.64	6.85	5.72	7.38	8.19	10.08	
Buckwheat	2.21	4.60	4.96	4.41	5.35	8.86	13.86	
Sunflower Seed	5.28	6.26	9.87	9.28	9.47	7.74	8.81	7.68
Cotton	1.05	1.02	.96	1.14	1.15	1.06	1.07	1.07
Potatoes	3.16	3.69	3.68	8.14	8.59	7.89	8.34	8.85
All Crops	1.32	1.71	1.69	2.07	2.09	2.03	2.06	2.02
Beef	3.38	4.76	4.64	5.08	6.04	11.47	12.26	12.28
Pork	4.53	7.86	8.06	9.76	11.51	11.56	11.81	11.95
Milk	2.02	2.89	3.03	3.34	3.62	4.04	4.04	4.05
All Livestock Products	2.14	3.07	3.19	3.71	4.20	5.46	5.61	5.60
Total Procurement	1.54	2.07	2.09	2.51	2.66	2.96	3.02	2.99

Source: A. N. Malafeev: Istoria Tsenoobrazovania SSR (1917-1963 g.g.)  
Moscow 1964, pp. 412-413.

TABLE VII

Procurement Prices (in rubles per ton)

	State Farms (1961)	Collective Farms (1963)
Grains (except corn)	55.90	65
Wheat	55.70	75.60
Sunflower Seed	80	181
Cattle	663	799
Hogs	n.a.	980
Poultry	898	1,322
Milk	n.a.	121.8
Eggs (1,000)	58.20	70
Wool	2,494	4,019

TABLE VIII

Reported Farm Production Costs (in rubles per ton)<sup>(1)</sup>

	State Farms		Collective Farms	
	1958	1964	1958	1962
Grain (except corn)	37	51	38	37
Potatoes	58	n.a.	28	38
Sugar-beets	17.4	23	12	16
Cattle	806	1,346	798	834
Hogs	1,007	1,267	1,148	1,146
Milk	124	172	116	129

(1) According to the official Soviet exchange rate, U.S. 1.00 = .91 rubles.



TABLE IX  
USSR Grain Exports by Calendar Years  
(in 1,000 metric tons)

Year	Wheat	Rye	Barley	Oats	Corn	Total
1955	2,035.8	698.9	565.0	75.6	307.4	3,682.7
1956	1,452.4	519.4	785.4	164.3	293.7	3,214.2
1957	5,450.8	440.6	1,214.0	223.5	84.6	7,413.5
1958	3,878.7	461.0	278.3	261.1	220.5	5,099.6
1959	6,052.0	548.9	121.6	131.4	154.9	7,008.8
1960	5,624.4	682.5	324.0	41.5	122.2	6,794.6
1961	4,800.6	1,088.0	1,006.8	179.9	405.6	7,480.9
1962	4,765.2	1,300.3	466.8	25.3	1,256.7	7,814.3
1963	4,105.6	815.0	594.2	22.0	723.1	6,259.9
Total	38,165.5	6,554.6	5,356.1	1,124.6	3,568.7	54,769.5
1964	2,030.5	150.3	665.8	28.3	638.6	3,513.5
Total 1955-64	40,196.0	6,704.9	6,021.9	1,152.9	4,207.3	58,282.0

Source: Ministerstvo Vneshnei Torgovli; Vneshniaia Torgovlia Soiuza SSR za 1955-1959 god. Moscow 1961, pp. 56, 57, and subsequent volumes of the same publication.

TABLE X  
Food Grain Exports by Calendar Years  
(in 1,000 metric tons)

Year	Wheat	Rye	Total
	Net Exports	Exports	
1955	2,006.7	689.9	2,705.6
1956	1,009.1	519.4	1,528.5
1957	5,328.7	440.6	5,769.3
1958	3,555.4	461.0	4,016.4
1959	5,805.1	548.9	6,354.0
1960	5,526.4	682.5	6,208.9
1961	4,144.7	1,088.0	5,232.7
1962	4,720.1	1,300.3	6,020.4
1963	1,053.1	815.0	1,868.1
1964	-5,250.9	150.3	-5,100.6
Total	27,898.4	6,704.9	34,603.3

Source: Same as Table IX.

TABLE XI

Feed Grains Net Exports by Calendar Years

(in 1,000 metric tons)

Year	Barley Exports	Oats Exports	Corn (net exports)	Total
1955	565.0	75.6	31.6	672.2
1956	785.4	164.3	243.5	1,193.2
1957	1,214.0	223.5	54.3	1,491.8
1958	278.3	261.1	-41.0	498.4
1959	121.6	131.4	154.9	407.9
1960	324.9	41.5	5.0	370.5
1961	1,006.8	179.9	383.0	1,569.7
1962	466.8	25.3	1,256.7	1,748.8
1963	594.2	22.0	723.1	1,339.3
1964	665.8	28.3	638.6	1,332.7
Total	6,021.9	1,152.9	3,449.7	10,624.5

Source: Same as Table IX.

TABLE XII  
Net Export of Grains by Calendar Year  
(in 1,000 metric tons)

Year	Food Grains	Feed Grains	Total
1955	2,705.6	672.2	3,377.8
1956	1,528.5	1,193.2	2,721.7
1957	5,769.3	1,491.8	7,261.1
1958	4,016.4	498.4	4,514.8 <sup>(1)</sup>
1959	6,354.0	407.9	6,761.9 <sup>(1)</sup>
1960	6,208.9	370.5	6,579.4 <sup>(1)</sup>
1961	5,232.7	1,569.7	6,802.4
1962	6,020.4	1,748.8	7,769.2
1963	1,868.1	1,339.3	3,207.4 <sup>(1)</sup>
1964	-5,100.6	1,332.7	-3,767.9
Total	34,603.3	10,624.5	45,227.8 (45,945.8) <sup>(1)</sup>

(1) Actual Net Exports 4,318 in 1958; 6,752.3 in 1959; 6,554.2 in 1960, and 3,157.0 in 1963.

Source: Same as Table IX.

ALTERNATIVES AND OPPORTUNITIES FOR CANADA IN  
INTERNATIONAL TRADE IN AGRICULTURAL PRODUCTS

by

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The fact that the value of merchandise exports and imports represents a large proportion of Gross National Product in Canada means that the entire economy is vitally affected by international trade developments. "In recent years merchandise exports have accounted for around 50 per cent of the output of goods in Canada and imports for around 50 per cent of the total expenditure on goods."<sup>1/</sup> Exports of agricultural products constituted 24 per cent of total Canadian exports in 1963,<sup>2/</sup> and roughly one-quarter of agricultural output. With the vast changes which are occurring in agricultural technology and in agricultural policies in most areas of the world, the subject of this paper is of great importance to the future of Canadian agriculture, and indeed to the entire economy.

This paper is divided into five parts. Part I deals with national objectives, the contribution which Canadian agriculture has made and can make toward achieving them, and a brief review of the main features of agricultural policy in Canada. Part II examines three alternative general approaches in Canadian foreign agricultural policy and the factors which are relevant in choosing the most desirable approach. Part III describes trends in agriculture and policy in various regions and countries. Part IV deals with likely international market conditions for a number of Canadian farm products. Part V attempts to draw together the information of the preceding sections to identify the trade and domestic policy or policies most likely to be in the interest of Canada.

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<sup>1/</sup> Clark, M.G., "Canada and World Trade", Economic Council of Canada, 1964, p.1.

<sup>2/</sup> Downs, J.R., "Export Projections to 1970", Economic Council of Canada, 1964, p.4.

## I. CANADIAN POLICIES - NATIONAL AND AGRICULTURAL

### 1. The achievement of national economic objectives

Canada has three major economic objectives -- high employment, stable prices, and rapid growth. Over the past nine years we have had about 50 per cent success in achieving them:<sup>1/</sup> we have had persistently high rates of unemployment (failure); we have had quite stable prices (success); and we had almost no growth in the first five years, and rapid growth in the last four (half failure and half success). To these objectives might be added a fourth -- providing a satisfactory standard of living and social security to all citizens regardless of their ability to produce and to earn.

Agriculture, in most countries, plays an important role in the achievement of national economic objectives. In an excellent article, "The Role of Agriculture in Economic Development"<sup>2/</sup> the authors describe five ways in which agriculture in low income countries can serve economic development. They are (1) meeting increases in domestic demand for farm products, (2) providing exports to earn foreign exchange, (3) freeing labour for non-farm sectors, (4) making capital available to non-farm sectors, and (5) providing a

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<sup>1/</sup> A simple average of annual unemployment rates for the years 1957 to 1964 inclusive was 5.98 per cent. The Wholesale Price Index increased only from 113.8 (1949 = 100) in 1956 to 123.8 in 1964, and the Consumer Price Index from 118.1 to 135.4 in the same period. These were slower rates of increase than in almost any other western country.

The real per capita income of Canadians was higher in 1956 than in any succeeding year until 1962. Per capital Gross National Product in constant 1957 dollars was as follows:

Year	1956	1957	1958	1959	1960	1961	1962	1963	1964
\$	1954	1913	1886	1906	1910	1920	2011	2068	2163

Source: Canadian Imperial Bank of Commerce Commercial Letter, July 1965.

<sup>2/</sup> Johnson, B. F. and Mellor, J. W., "The Role of Agriculture in Economic Development", American Economic Review, Vol. LI, No. 4.



market for the output of non-farm sectors. While this article refers to low income countries, an examination of post-war Canadian developments indicates that Canadian agriculture has contributed to the achievement of our national objectives under four of the five headings presented above. (1) The increase in domestic demand for food has been met by a 58 per cent increase in physical volume of farm production between 1945-7 and 1962-4.<sup>1/</sup> (2) Agricultural exports have earned about 20 to 25 per cent of the foreign exchange earned by Canadian merchandise exports, whereas agriculture's share of Net National Income has been only about 6 to 7 per cent. (3) That agriculture has supplied other sectors of the economy with large numbers of workers is evident from the 46 per cent decline in number of farm workers between 1946 and 1964. (4) While it is difficult to document any flows of capital from agriculture to other sectors, agriculture has provided the rest of the economy with low cost food; the index of farm prices has increased only 26 per cent between 1946 and 1964 whereas the Wholesale Price Index increased 77 per cent in the same period. (5) Agriculture has provided a large and growing market for machinery and farm supplies used in production.

## 2. Agricultural policies and programmes

Agricultural policies are usually formulated with one or more of the following objectives: increase aggregate net farm income, increase the net income of low income farmers, improve the nation's balance of trade, or contribute to national growth. It is the author's hypothesis that Canadian farm policy has pursued the first of these objectives; the only exceptions

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<sup>1/</sup> Obviously the years selected affect the measurement of changes in anything so variable as physical volume of farm production. In an earlier paper in this series, MacEachern and MacFarlane remark on "the slow rate of growth in Canadian farm output of only 1.5 per cent per year" between the early 1950's and 1964. On the other hand the increase was 23 per cent between 1957-61 and 1962-4, or about 5 per cent per year.

have been the recent ARDA programme and perhaps the controversial limited price supports for eggs and hogs, which have pursued the second objective. In fact, the programmes implemented have probably contributed more to the achievement of the last two objectives -- balance of trade and national growth -- than they have to the objectives of increasing farm income.

There have been six major types of programme designed to achieve the objective of increased aggregate net farm income.

a) Programmes to lower the cost of production have been based on the assumption that lower costs will increase net farm income. Government activities in this direction have included research, extension, credit, tariff-free imports of farm machinery and most farm supplies, farm gasoline tax rebates, some limited subsidies on lime and other inputs, and the feed-freight subsidy.

b) Assistance to increase marketing efficiency. Research, extension, grading, inspection, grants for construction and improvement of processing and warehouse facilities, and transportation subsidies have all tended to reduce marketing costs.

c) Tariff and non-tariff protection against imports. Tariff protection has been important in the production of broilers, turkeys, tobacco, sugar, vegetable oils, seasonally on some fresh fruits and vegetables, canned fruits and vegetables, and, of lesser importance on corn, livestock, and manufactured milk. Non-tariff protection may have been of greater total importance than tariff protection. Butter imports have been banned, cheese imports limited, and wheat, oats, and barley imports made subject to Canadian Wheat

Board licensing.<sup>1/</sup>

d) Modest price supports. Price supports have been quite inexpensive to Canadian taxpayers compared with the experience of other industrial nations. They have cost only \$436 million in the entire period 1946 to March 31, 1964, compared with a total net farm income of \$26 billion in the same period.<sup>2/</sup> In so far as price supports have contributed to stabilizing production from year to year, they have undoubtedly promoted efficiency of production.<sup>3/</sup>

e) Export assistance. The provision of Canadian Trade Commissioners in other countries, export credits, Colombo Plan and World Food Program donations of food are some of the major contributions toward promotion of exports.

f) Co-operatives and marketing boards. The Canadian Wheat Board has worked toward market stability and improvement. Provincial marketing boards have operated two-price systems, three of them control production, and many have improved marketing channels and price negotiations.

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<sup>1/</sup> See "Agricultural Protection by Non-tariff Trade Barriers", United States Department of Agriculture bulletin ERS-60, 1963. This bulletin indicates (p.3) that 41 per cent of Canadian agricultural production benefits from non-tariff protection compared with 26 per cent in the United States, 37 per cent in the United Kingdom, and greater percentages in the remaining 15 countries discussed.

<sup>2/</sup> By contrast, farm net income in the United Kingdom was Can. \$1,227 million in 1963-4; price guarantees cost the Exchequer \$537 million, and production grants cost \$312 million. These costs were in addition to the regular services of research, extension, grading and so forth. Source: Cmd 2621, Her Majesty's Stationery Office, London, 1965. In the United States it is difficult to ascertain the cost of price supports because of accounting arrangements between the Commodity Credit Corporation and surplus disposal agencies. Direct government payments to farmers amounted to U.S. \$2,168 million in 1964, or 17 per cent of the U.S. \$12,704 million of net income of farm operators. Source: "Agriculture Abroad", June 1965, Canada Department of Agriculture.

<sup>3/</sup> Wide year-to-year fluctuations in the output of individual products are wasteful through their contribution to surplus capacity in farm and processing facilities and the build up and disposal of breeding stock.

We stated our hypothesis that the major objective of farm policy has been to increase aggregate net farm income. Because of the competitive nature of farm production, several of the programmes listed above have been able to accomplish little in this direction. Much of the benefits of increased production efficiency, for example, are passed along to consumers, including farmers, in the form of lower prices. They have, however, contributed to national growth through lower prices, increased exports, and freeing of labour for industry. Within agriculture those producers who were able to adopt the new techniques were made better off, and the remainder were made worse off, at least so long as they remained in agriculture.

Because Canadian agriculture is so heavily dependent upon international trade, programmes which increase production and marketing efficiency and promote exports make Canadian producers more capable of competing internationally. The higher incomes so derived, however, tend to be passed along to the factors of production. The factor in the most inelastic supply is land, whose price rises with increased profitability in farming. Farmers may find that they are rewarded more as land owners than as farm operators.

## II. FOREIGN TRADE POLICY ALTERNATIVES

Canada can follow three alternative general approaches in agricultural trade policy:

- 1) advocate and negotiate for freer trade and the reduction of subsidies and other interferences in agricultural markets,
- 2) negotiate market sharing agreements with importers and other exporters, and negotiate prices with importers and other exporters,
- 3) continue, with modifications, the present policy of assistance in production and exporting.

### Factors influencing Canada's choice of alternative approaches

1. The ability of Canadian farmers to compete internationally if all countries were to move in the direction of free market conditions (no tariff or non-tariff barriers and no subsidies).

2. Canada's ability to convert farm resources from those products in which we have high relative costs to those in which we have low relative costs. For example, the land upon which tobacco is grown could not be readily converted to other profitable use, whereas Ontario land devoted to sugar beets could produce corn or beans without serious loss of farm income.

3. Canada's ability to compete in a widespread programme of subsidization and protection for agriculture.

4. Probable courses of action by other countries with Canada taking the initiative, or alternatively, with Canada following the lead of others. For example, it may be quite unrealistic to expect a general movement in the direction of free trade.

5. Trends in the likely demand and supply for groups of products area by area.

We now turn to a discussion of each of these questions in turn; the first three will be discussed in the remainder of Part II, and the other two questions in Parts III and IV.

#### 1. Competitive position of Canadian agriculture

First, let us digress briefly for a few remarks on comparative advantage. Economic theory indicates that trade can occur with mutual advantage to trading partners when each produces and exports those commodities in which it has comparative advantage. The textbook treatment of the subject,



however, refers to comparative advantage in terms of quantities of resources used as inputs, and thus it is possible to conclude that trade can occur (because of comparative advantage) even though one country has an absolute advantage in the production of all goods. However, if one refers to monetary costs (rather than quantities of inputs) it is obvious that trade will occur only if one country can produce and sell a commodity at a lower dollar cost than can another country. Thus what is discussed in this paper is a comparison of prices and costs in dollar terms (a combination of exchange rates and of factor prices and productivities). Obviously, the level of costs affects the level of prices. Less obviously, but equally important is the fact that prices affect costs. The high price of tobacco in Ontario is reflected, through profitability, in a high price for tobacco land with rights. The improved ability to deliver wheat on the prairies was reflected in recent years in increased land values. These increased values in turn increase realistic accounting costs. One might expect that the cost of producing wheat just south of the 49th Parallel is higher than just north of it because the (partly subsidized) price of wheat is higher south of the border. Given time to adjust, and the adjustment may be painful, costs adjust to prices just as surely as prices adjust to costs in a reasonably competitive situation.

In the remainder of this section we shall deal with price-cost considerations as they presently exist. Whether it would be in the best interest of agriculture to advocate free market conditions (no tariff or non-tariff barriers, and no subsidies) will depend largely on Canadian farmers' ability to compete with farmers elsewhere in terms of costs.

What would be the effect of a fairly rapid movement (say over the course of five years) in the direction of free trade and abandonment of all



subsidies except for those of research, extension, grading and inspection?

a) Wheat. With a competitive advantage of at least 30 cents per bushel over their American competitors<sup>1/</sup> and at an even greater advantage vis-à-vis European producers, Canadian wheat producers would experience a boom in exports, prices, and of course, land values.

b) Livestock. The elimination of trade barriers and subsidies would lead to some increase in Canada-U.S. trade in livestock and livestock products and probably narrow the range of Canadian prices without adverse effects on their average levels. There might be some increase in imports of canned pork from western Europe. In general, livestock producers on the prairies and the central provinces would be at least as well off, but those in the Maritimes would suffer.

c) Butter. The price of New Zealand finest grade butter laid down in London in the second quarter of 1965 was 46 cents per pound. The Montreal wholesale price of Canadian butter was 53 cents, which was reduced by a subsidy of 9 cents. American Grade A butter in New York was 64 cents. There is no doubt that New Zealand could undercut both the United States and Canada and our prices would fall as a result. However, the potential for increasing production in New Zealand is by no means unlimited -- certainly not sufficient to satisfy both the U.S. and Canadian markets, plus others now being filled, without an appreciable increase in price. What one might expect would be a rise in the New Zealand butter price and a decline of 4-5 cents in the American and Canadian prices to producers.

d) Broilers. (Grade A, ice packed) in New York cost 24.9 cents per pound in 1964 (simple average monthly prices). Adding exchange and 1.2

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<sup>1/</sup> The unsubsidized prices of comparable grades of wheat on farm in Saskatchewan and Nebraska are almost equal but the U.S. subsidy is at least 30 cents per bushel greater than Canadian subsidies on storage and transportation.

cents per pound for extra transportation (Delaware to Toronto rather than to New York) would give a laid down price of U.S. broilers in Toronto of Can. 28.1 cents. The present tariff is 5 cents per pound. Canadian costs exceed American partly because of higher feed costs (considered below) and partly because of more expensive equipment. The Canadian tariff against processing, ventilating, and feeding equipment is 22.5 per cent. In the United States there has been a steady shift of the broiler production area to the south. With free trade, eastern Canadian producers would have the advantage of lower costs of labour, plus higher transport costs on imported birds, and should be in a better competitive position than were broiler producers in the north-eastern states, but would suffer (limited) adverse effects from free trade.

e) Turkeys are produced in great numbers in the American mid-west and could be shipped to Toronto as easily as to New York, or to Winnipeg almost as cheaply as Chicago. In 1964 the prices of hens 12-14 pounds, frozen, wholesale, were:

New York	36.7 cents
Chicago	34.4 cents
Toronto.	41.0 cents

American turkeys would have averaged about Can. 39.5 cents in Ontario. Canadian costs are higher because of tariffs on equipment and because of higher feed costs. In July 1965, soybean meal was selling for Can. \$79.70 in Decatur and \$93.80 in Guelph. Corn was costing the U.S. mid-western farmer about Can. \$47.50 and was priced at \$55.00 in Chatham. The tariff amounts to \$2.85 per ton.

The exchange and transportation costs, which operate to protect domestic producers in their product markets, operate to their disadvantage in the factor markets.

f) Tobacco is currently protected by tariffs of 20 and 30 cents per pound against unstemmed and stemmed tobacco respectively which is far more protection than is required to limit imports. About 20 to 25 per cent of Canadian production is exported, of which over two-thirds goes to the United Kingdom, in which market Canada has a preferred position vis-à-vis the United States. Elimination of trade restrictions would remove Commonwealth preferences, and elimination of price supports in the United States would eventually produce a much more efficient industry (tobacco acreage per farm is only a small fraction of that in Ontario) but Canadian producers, on balance, should be able to compete with some, but not serious, difficulty.

g) Sugar beet producers in every country would be adversely affected.

h) Producers of some fruits and vegetables might have problems from low cost imports from the United States, but our tariffs are already quite low (e.g. two cents per pound on canned peaches, .25 cents per pound on fresh apples, and about \$4.00 per ton on canned tomatoes).

The above comments arise from considering products in isolation; the inter-related effects might be quite different. For example, the increased export markets available for wheat might reduce the amount of domestic feed grain available and increase its cost to the livestock and dairy industries. Much more study would be required than has been possible in this paper before reaching any firm conclusions.

2. Ease of converting farm resources to products in which Canadian producers have a competitive advantage. Almost all producers west of central Quebec could readily adjust to more profitable lines of production if they were adversely affected, with the possible exception of western sugar beet growers, some turkey growers, and some small dairymen. Those affected most adversely would be Maritime livestock and poultry producers, whose incomes are low even with subsidies.

### 3. Canada cannot compete in a programme of farm subsidies and protection.

The most relevant figure in judging countries' ability to subsidize exports is probably the ratio of agricultural exports to GNP. For Canada, agricultural exports of \$1.8 million were 3.8 per cent of GNP in 1964 compared with .7 per cent in the United States. With the present variable levies imposed by the European Economic Community and by the United Kingdom in the case of cereals, exporters could not obtain the benefit of export subsidies.

We may complete Part II with the general statement that Canadian producers would be highly competitive in a world of free trade and no subsidization. Whether or not a movement in this direction is possible is by no means clear. Let us turn now to a consideration of recent developments and policy trends in various countries.

### III. TRENDS IN AGRICULTURAL PRODUCTION AND POLICY

1. The United States. Because the greatest volume of our total agricultural trade is with the United States and because we are competitors in most third markets, we are greatly affected by developments in the United States. Theoretically and philosophically the United States is dedicated to the ideal of free enterprise and competition; in fact American foreign trade policy has been highly restrictive and has inhibited competition from imports in both industrial and agricultural sectors.

Over the past 20 years the United States has taken the lead in liberalizing trade, with the exception of trade in agricultural products. Domestic farm policy directed toward the objective of increasing aggregate net farm income has relied extensively on price supports, and price supports

almost invariably must be accompanied by some interference with international trade.

"It is not unreasonable to say that the United States shares much of the responsibility for the separation of agricultural trade from the general rules that have been devised to make possible increasing gains from international specialization through expanded trade. The Havana Charter, which later became the basis for GATT, clearly established exceptional treatment for agricultural products. Conditions that justified the use of export subsidies or quantitative import restrictions were spelled out. It was no accident that the grounds for the exemptions were the particular methods used by the United States in its domestic farm programs. After all, the draft of the Havana Charter was written in Washington and it was generally agreed, both in Washington and other major capitals, that no agreement on rules that would lead to general liberalization of international trade could be negotiated unless the trade implications of U.S. agricultural programs were accepted as being outside the scope of negotiation.

The present stance of the EEC that the variable levies are not subject to negotiation during the Kennedy Round is thus little different than the posture taken by the United States from 1935 until the last two or three years. The fact that the particular conditions of U.S. agricultural programs have been recognized in the GATT rules is of little value -- nor should it be -- in restraining other nations from following trade policies that have similar consequences. Nor is the fact that the United States has indicated that it is now willing to negotiate with respect to any aspect of its domestic farm programs a sufficient inducement to other industrial nations to adopt a similar stance."<sup>1/</sup>

This quotation sets out admirably the developments in foreign trade attitudes, and the present position. The exchange of offers for tariff reductions on agricultural goods under the Kennedy Round were submitted on September 16th. The approach for most large countries is an across-the-board or linear reduction, but Canada has insisted on a continuation, in her case, of a quid pro quo approach as under earlier GATT negotiations. It is impossible to predict the results of the Kennedy Round but at present they are not encouraging. The Financial Post (September 11, 1965) reported that Kennedy Round negotiations are not expected to be completed until early in 1967. This is

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<sup>1/</sup> Johnson, D.G. "Agriculture and Foreign Economic Policies: Implications to Producers", University of Chicago Office of Agricultural Economics Research, 1965.



dangerously close to June 30, 1967, the expiration date for congressional authority to the President to negotiate under the Trade Expansion Act of 1962.

While the United States has taken the lead in proposing the Kennedy Round, it seems unlikely that her own domestic agricultural policy will be changed in any important way. Indeed the recent proposal to increase the support prices for wheat by 50 cents per bushel indicates pressure to maintain or increase supports. We can expect that U.S. farm prices will continue to be supported at levels above world prices, and that surpluses will continue to enter world markets either through "commercial sales", which may include an export subsidy, or become part of the huge Public Law 480 programme. "PL 480 exports comprised 27 per cent of the value of all agricultural exports during 1964 and 28 per cent during the period July 1, 1954 through December 31, 1964." <sup>1/</sup>

All developed countries are involved in farm subsidy programmes, although none are on such a large scale as those of the United States. One of the results is that importers can say with some justification that "world prices" are the result of subsidies on production, transportation, storage, and exports (including gifts), and argue that they should not allow their producers to be bankrupted by the subsidy programmes of exporters. Exporters can argue with equal validity that they should not allow their producers to suffer because of the protection of less efficient producers operating behind tariff barriers or with export subsidies in other exporting countries.

A recent study <sup>2/</sup> which indicated that American farm net income

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<sup>1/</sup> "Food for Peace, 1964 Annual Report on Public Law 480", The White House, Washington, March 1965, p.14.

<sup>2/</sup> Reported in "Agriculture Abroad", Canada Department of Agriculture, June 1965, and drawn from: Tweeten, L.C., Heady, E.O., and Mayer, L.V. "Farm Program Alternatives: Farm Incomes and Public Costs under Alternative Commodity Programs for Feed Grains and Wheat", Center for Agricultural and Economic Development, Iowa State University, May 1963.



would decline by 50 per cent if price supports were discontinued will reinforce the position of those who advocate no major reduction in U.S. price support programmes. It seems reasonable to assume that while there may be changes in technique, as with the present wheat certificates, the basic programmes in the United States are likely to continue.

2. The United Kingdom. The British economy has failed to keep pace with the economies of almost all other western countries, measured by any index one cares to use, except for that of involuntary unemployment. Balance of payments difficulties have provided some of the rationale for British agricultural policy and will be important in the future. The need to conserve foreign exchange is likely to result in continued emphasis on increased farm production and reduction of imports.

British agricultural policy has included heavy subsidization through price supports and production grants, amounting in total to about three-quarters of net farm income. The annual cost of these two forms of assistance has, in recent years, been almost double the total cost of Canadian price supports from 1946 to 1964. Production grants for fertilizers, farm improvements and similar purposes have increased slightly, costing Can. \$310 million in 1963-4. Discussions in Britain indicated that most of the productive possibilities for grants may have been already explored; one might expect only slight increases in grant expenditures in the future. Price supports are, of necessity, largely in the form of deficiency payments, and have been declining in Exchequer cost since 1961-2. In 1963-4 they cost about Can. \$540 million.

Concern about the cost of agricultural subsidies to the Exchequer has led the government to reduce some of the guaranteed prices and to impose

"standard quantities" to which these guaranteed prices will be limited. For example, in 1965-6 the guaranteed price of wheat will be about Can. \$2.04 per bushel and the standard quantity about 127 million bushels. If production exceeds the standard quantity by, let us say, 10 per cent, the deficiency payment per ton would be reduced by 10 per cent in order to limit the cost to the Exchequer.

The new cereals policy initiated on July 1, 1964, involved the negotiation of Agreements with the major exporting countries fixing minimum import prices for various grades and providing for levies to bring market prices up to these minima. In the Agreements, Britain agreed to share the British market and any increases in the market for cereals with foreign suppliers. This arrangement does not allocate a given number of tons to each exporting country, but is supposed to provide a global import figure within which exporters must compete. In its first two years of operation the cereals policy is meeting with serious difficulty because British production has continued to increase and imports have fallen short of the global total by almost one million tons per year. In the 1965 Price Review the Government cut its guaranteed price for barley by the full four per cent permitted under the basic Agriculture Act of 1957 and cut the guaranteed price of wheat by almost four per cent. It is an open question, however, whether the improvements in technology and through farm consolidation may be so rapid as to exceed the effects on production of the possible decline in prices permitted under the 1957 Act (i.e., reductions in the level of guaranteed prices of four per cent in any one year and a total of nine per cent in three consecutive years).

Imports of cereals have fallen since the early 1950's whereas production has increased by between one-third and one-half from an almost un-

changed tilled acreage. Barley acreage has grown phenomenally and now comprises close to one-half of total tilled acreage; this expansion has been largely at the expense of mixed grains and oats; ten years ago oats acreage exceeded barley by almost one-third but now it is only one-fifth that of barley. Britain has managed to select heavy and consistent yielding barley varieties which are used for malting and feed.

Wheat acreage and imports have remained remarkably stable -- a situation which one might expect to continue for many years. Yields are increasing but, because British wheat is a relatively soft red winter, consumers demand considerable hard spring wheat for mixing.

It seems likely that meat production will increase substantially in the future resulting in further increases in the demand for feed grains. Britain is currently importing about 3,300,000 (long) tons of corn, 400,000 tons of sorghums, and 300-400,000 tons of barley per year. Corn imports have fallen in recent years, and have been replaced by barley, 95 per cent of which is home-grown. The livestock expansion is likely to be greatest in cattle, consuming large amounts of barley, and in poultry, which consume more corn. There is some prospect of a very limited expansion in barley imports. Britain produces barley suitable for malting providing the weather is not entirely unfavourable, and so most of her barley imports will be for feed. Oats imports are small and likely to continue to decline.

The increase in cattle numbers is likely to result in some increase in milk production, because the British Friesiens are good meat producers as well as milk producers.<sup>1/</sup> About two-thirds of British beef now comes from dairy breeds. The retail price of fluid milk is controlled at levels which

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<sup>1/</sup> Dairy cows produce about 8,000 pounds of milk per year in Britain compared with just over 6,000 pounds in Canada.

are, according to the government, sufficient to provide levels of returns and incentives to farmers that are in the national interest; thus there are no direct government subsidies to milk producers. About 70 per cent of the milk produced is consumed as fluid milk and the remainder goes into processing. Since there are no individual milk quotas and the Milk Marketing Board pools the higher returns from fluid consumption with the lower returns from processing uses (priced in competition with imports from New Zealand and other low cost sources), the milk supply can be adjusted only by changing the average price. Fluid consumption in Britain, as in Canada, has increased only very slightly, and at a slower rate than the increase in population. As in Canada too, milk policy is probably more closely associated with the problems of low income farmers and farm areas, and so it is quite sensitive to political developments. It would appear that milk production in Britain is likely to increase modestly, not because such an increase is in the national interest, but because of the association of milk production with beef production, and the latter is likely to increase as a result of national policy of saving foreign exchange.

Britain has agreements with the major butter exporting countries whereby each has a specified percentage of the British market. There is no such arrangement for cheese. The only way by which dairy developments in Britain will affect Canada directly is through our exports of cheese and limited quantities of milk powders. Because our raw milk cheddar cheese is a specialty product finding favour with British consumers, we should be able to export 25-40 million pounds per year without difficulty, and at a continued premium over pasteurized or heat-treated cheddar from other sources. Canadian cheddar enjoys a premium of about 12 cents per pound in London, or about one-third more than the price of New Zealand or English cheddar in the same market.

Horticultural products occupy a unique position in British agriculture in not being part of the annual price review and guarantees programme discussed by the Ministry of Agriculture, Fisheries, and Food on the one hand and the Farmers Unions on the other. Furthermore, horticultural product prices are supported, not by the Exchequer as is the case with other products (except milk), but by tariffs and quotas. Canada's major horticultural export to Britain has been apples. Britain produces about 500,000 long tons annually and imports about 200,000 tons of which about 20,000 tons are from Canada. Canadian exports of apples total about 60,000 long tons and imports about 20,000 tons. Canada finds herself in a rather anomalous position in exporting apples to the United Kingdom; there are no import quotas against apples from the Commonwealth excluding Canada, and none against South Africa, no longer a member of the Commonwealth. There is a quota against the dollar area (including Canada) and Western Europe which totals 80,000 tons. Canada has gained an increasing proportion of this quota in recent years. Licenses are required for imports from all countries except the Commonwealth (excluding Canada), South Africa, and the Irish Republic. One might expect some modest increases in exports from Canada to the United Kingdom in the future.

Among canned fruits, Canadian exports total only about 8,000 long tons (varying from 1,200 in 1960 to 11,200 in 1962 and 8,300 tons in 1963), of which about 60 per cent are exported to the United Kingdom. Canadian exports of about 5,000 tons represented only a small proportion of British imports (101,200 tons of peaches and 63,000 tons of pears alone in 1963). Canadian exports of fruit juices to Britain are negligible.

Canadian exports of canned vegetables and vegetable juices have risen rapidly in recent years and now amount to about 20,000 tons per year.



An upward trend in exports to the British market seems in prospect. Considerable efforts have been devoted to the expansion of Canadian processed foods into the British market in recent years by federal and provincial governments and Canadian industry.

British importers buy Canadian tobacco in competition with other tobaccos, and emphasize the importance of continuity of supply.

To summarize, it appears that the Government of the United Kingdom has tended toward agreements under which the British market will be shared between British and foreign producers. This is now the case for cereals, butter, and bacon. These developments seem to be the results of concern about maintaining or increasing British farm incomes, and limiting payments by the Exchequer. The traditional objective of cheap food may be eroded, in a modest way, as a result of these two factors.

3. The European Economic Community. The EEC approach to agriculture through its Common Agricultural Policy has been so well described<sup>1/</sup> that no details will be presented in this paper. In general, it involves setting high target prices and slightly lower intervention prices, along with levies to bring import prices up to the intervention prices. It involves also a fairly rapid movement in the direction of free internal trade and common price levels. Former French African territories are in a favoured position because they have most of the privileges of membership in the EEC. Greece has recently been accepted as an Associate Member, and Turkey and Israel

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<sup>1/</sup> See Royer, J., "Commercial Policies and Techniques", a paper prepared for this Conference.

See also: Sinclair, S., "Common Agricultural Policy of the EEC and its Implications for Canadian Exports", Canadian Trade Committee, 1964; and "GATT Programme for Expansion of International Trade; Trade in Agricultural Products", Report of Committee II on the Consultation with the European Economic Community, Geneva, 1962.



on a partial basis. Recently, however there has been such serious disagreement between France and her EEC partners that the future course of agricultural policy, and indeed of the EEC itself, is in doubt.

Grain production in the EEC may be expected to increase substantially, partly as a result of improved production technology and management, and partly as a result of the encouragement of high prices. In the case of wheat the average prices received by farmers in 1963-4 were as follows, (Canadian dollars per bushel): Belgium, \$2.77; France, \$2.53; Germany, \$3.10; Italy, \$3.50; and the Netherlands, \$2.72.<sup>1/</sup>

The variable levy on wheat is the same absolute amount per bushel regardless of quality and price (for example \$1.50 applied both to No. 1 Northern and to soft wheat from Argentina) and thus the percentage difference in prices between hard Canadian wheats and soft wheats from other countries will be reduced.

Canadian exports to the EEC consist of hard spring wheat (about 35-40 million bushels per year) and durum wheat (about 15 million bushels). The demand for durum wheat seems to be more consistent than is the demand for bread-flour wheats.

Assuming that progress is made toward common prices for cereals (with appropriate differentials among markets), the price of wheat will rise in France and decline in West Germany and Italy. The increase in wheat prices in France will almost assuredly result in increased output. French wheat production has increased rapidly in recent years, from 9.5 million metric tons average in the five years ending 1958-9 to 11.3 million in the following five years, without any increase in acreage. It is estimated that

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<sup>1/</sup> "Agriculture Abroad", August 1965, Canada Department of Agriculture, p. 44.

a considerable acreage of French land could be drawn into wheat production largely from pasture (perhaps as much as four million acres). Of at least equal importance is the continuing trend toward farm consolidation and technological advance which will increase yields. Wheat yields in France increased almost 20 per cent from the five year period ending 1958-9 to the following five years. French wheat exports increased from 1.8 million metric tons average in the five years ending 1958-9 to 2.2 million in the following five years, were 2.7 million in 1963-4 and may be 4 - 4.5 million in 1965.

A major trend to be expected in the EEC countries is an increase in livestock production and consequent demand for feed grains. While European production of feed grains will increase, it is likely that there will be an increase in imports of barley, corn, and feeding stuffs other than grain. The basic question for Canadian producers then becomes one of the competitive relation of Canadian barley versus American, South African, and Argentinian corn.

The agricultural policy of the EEC appears likely to promote mal-allocation of resources between agricultural and non-agricultural uses on a major scale, and will result in high food prices and increased farm output. Ultimately the continuation of such a policy and its results becomes a political question; if there were to be an economic slow-down in the EEC one might expect criticisms of the high food costs arising out of the EEC agricultural policy.<sup>1/</sup> At this stage, however, there is little reason to anticipate that the high farm price policy of the EEC is likely to be greatly modified.

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<sup>1/</sup> The concept of "cheap food" deserves reconsideration. In its Nineteenth Century context it quite rightly referred to farm prices or CIF prices of imports. Now, however, when the farmers' share of the retail food basket has declined drastically (e.g. to 38 per cent in the United States in the first quarter of 1965) low farm prices have limited importance in contributing to "cheap food".

In summary, we might expect to continue to sell about the same amounts of our high quality bread-wheat and durum to the EEC as in the past, and to experience strong competition for a share of the growing market for feed grains.

4. Japan. Japanese agriculture has offered a textbook illustration of success on the part of a low income country in modernizing and improving its agriculture. The area available for wheat production, however, is limited, and indeed wheat acreage has fallen in recent years. Yields average about 34 bushels per acre, which is high compared with the major exporters, but low compared with output from alternative crops. Imports have increased from about 2.8 million metric tons in 1960-1, 1961-2, 1962-3 to 3.9 million in 1963-4. Imports are drawn from the United States, Canada, and Australia, in descending order of importance.

Japan continues to be an important market for barley but imports far more corn than barley (about 20 to 25 times as much). With the most rapidly rising Gross National Product of any non-communist country Japan is likely to be an increasingly important market for agricultural exports. Japan is our most important market for rapeseed, using the oil for human consumption and the meal for fertilizer. She is our second largest market for flaxseed. It is expected that the Japanese market for rapeseed will increase and the market for flaxseed will remain stable.

5. The U.S.S.R. Agricultural production has apparently been hampered by some combination of the system of large state and collective farms, forced

deliveries at low prices, and central planning and allocation of resources, with the result that Russian agriculture has failed to keep pace with Russian industry. One must realize, however, that agriculture was relatively neglected under Stalin, and that it is not at all simple to transform an agriculture as vast and diverse as that of the U.S.S.R. into an efficient productive sector. Most of us do not realize that the U.S.S.R. is the biggest producer of wheat in the world, with an average output in the five years ending 1963-4 which was greater than the combined production of the United States, Canada, Australia, and Argentina. For a wheat producer of this size a 20 per cent decline in production from one year to the next is equal to the combined production of Australia and Argentina.

Russia has promoted state and collective farms, and given little encouragement to the small privately-owned plots. The latter however, have become the source of a very large proportion of the nation's livestock and poultry products. There has developed a bimodal distribution in size of farm holdings with high incentives and over-intensive labour on the private holdings and apparent lack of incentives on the large holdings. The new leaders in the U.S.S.R. are re-appraising the established assumptions and programmes; while it is impossible to predict the outcome, it seems safe to assume that there will be greater efficiency and production in the future.

Prices of meat and dairy products have been increased substantially and are attracting increased amounts of grain away from cereal consumption and into livestock. The London Economist (August 21, 1965) stated recently, "The harsh fact is that at present there is very little prospect of getting both more livestock and higher grain procurements. As in 1953 -- if far less dramatically -- a shift to feedstuffs for pigs seems to be occurring at the expense of an actual and substantial decline in the breadbasket." One

might expect the U.S.S.R. to be an important but irregular market for wheat for many years, and possibly to offer a substantial market for feed grains.

6. Mainland China. Is a major producer of both wheat and rice, and of course a major consumer of both because of the huge population. Wheat is produced in the north, rice in the south, and both wheat and rice in central China. Wheat production, which is estimated to have averaged about 910 million bushels (24.7 million metric tons) in the five years ending in 1958-9, declined drastically after 1959, leading to heavy importation primarily from Australia and Canada.

It is significant that the Government of China has accepted the responsibility for importing in such substantial amounts at the expense of its imports of industrial goods; a few decades ago the shortfall in wheat production would not have elicited such substantial imports, but would have been accompanied by widespread starvation and misery. Chinese imports of two million metric tons in 1960-1, 4.7 million in 1961-2, 4.9 million in 1962-3, and 5.2 million in 1963-4, were relatively small compared with total domestic production averaging 20.4 million tons during this period. Even with imports the Chinese do not have a very substantial diet. The International Wheat Council estimated that the average Chinese had an intake of only 1800 calories per day in 1960 and 1961 compared with 2060 for the Far East as a whole, and 3000 for Western Europe.

The Council has expressed the view<sup>1/</sup> that whereas Chinese imports of wheat in 1960-1 were purely to meet the food crisis, the continued imports in the past few years may reflect a conscious government policy of importation of wheat, to be countered by exports of rice, beans, tobacco and other

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1/ "Review of the World Wheat Situation, 1962-3", International Wheat Council, London, 1963. See page 44 et seq.



products. This view is supported to some extent by the facts that the acreage devoted to wheat in recent years has been less than in the 1950's, and that exports of rice, though still not large, have risen in recent years and amounted to over 600,000 metric tons in 1963. The advantage of central distribution, the problems of internal transportation, and a possible desire on the part of the government to become more involved in trade with developed countries may also be factors in such a decision -- if indeed this is the policy of China.

It would be reasonable to assume, therefore, that China may continue to import something in the order of five million metric tons of wheat per year in the future. China became an important importer of barley in 1960-1, and in 1963-4 was the largest single export market for Canadian barley.

7. Eastern European countries have such diverse farm sectors that we shall not attempt to describe them here. As a group they are deficient in food production and normally import about 4.5 to 6 million metric tons of wheat and flour per year (160-220 million bushels). Imports have risen each year from 4.5 million metric tons in 1961-2 to 6 million in 1963-4. Historically their major source of supply has been the U.S.S.R., but imports from the U.S.S.R. have declined steadily from 3.1 million metric tons in 1960-1 to 2.8 in 1962-3 and to .9 in 1963-4. The United States, Canada, and France are now important sources, with imports from Canada ranging between .5 and .75 million metric tons per year.

8. Less Developed Countries. The LDC's have higher rates of population growth, higher income elasticity of demand for food, and lower rates of per capita economic growth than do the more developed countries. Agricultural



output is increasing slowly, and there is a large and growing potential demand for food imports.

Table 1  
Rates of Change in Developed and Less Developed Countries\*

	<u>Average annual rates of growth</u>		
	<u>1950-5</u>	<u>1955-60</u>	<u>1960-3</u>
Gross Domestic Product	<u>%</u>	<u>%</u>	<u>%</u>
Developed Countries	4.7	3.4	4.4
Less developed countries	4.6	4.5	4.0
Population			
Developed countries	1.2	1.3	1.3
Less developed countries	2.1	2.3	2.6
Gross Domestic Product per capita			
Developed countries	3.4	2.1	3.1
Less developed countries	2.5	2.1	1.5
Agricultural production			
Less developed countries	3.5	3.2	2.2

\* Excluding countries with centrally planned economics; countries are as classified by the United Nations.

Source: Cmnd. 2736. Her Majesty's Stationery Office, London, 1965.

Data derived from various United Nations documents quoted in Cmnd. 2736, (pages 9 and 10).

Most LDC's have chronic balance of payments problems arising from their high propensities to import, slowly increasing domestic production, and the adverse trend in terms of trade affecting their (largely agricultural) exports. The result is that most LDC's are either unable to purchase food on commercial terms or they are unwilling to give food purchases high priority. Naturally, they would prefer concessional sales which do not involve foreign currency.

There is another reason why food imports on concessional terms are sought by LDC's. The objectives of their farm policies, in contrast to ours,

are to promote national growth and to save foreign exchange rather than to increase aggregate farm income or improve farm income distribution. Investment funds are limited because of low private savings, inadequate income tax collection techniques and administration, and inability to market large bond issues. Consequently, the governments of LDC's are always seeking investment capital. Two possible sources are through PL 480 and similar donations or through marketing boards responsible for exports. Food donations will normally reduce the price incentives to LDC farmers to expand production.<sup>1/</sup> Helleiner's excellent article on Nigerian marketing (export) boards shows how they have diverted revenues from farm income to government development projects.<sup>2/</sup> In both cases, the attractiveness of obtaining additional investment funds leads LDC governments to sacrifice farm incomes and price incentives.

The United States has provided more aid (in dollar terms) to LDC's than the rest of the world and the UN agencies combined. About 40 per cent of her economic (as distinct from military) aid is now in the form of PL 480 and Mutual Security Act grants or concessional sales of foods and fibres. There seems no likelihood of any decline in this type and volume of aid so long as American domestic farm policy continues to produce huge surpluses.

<sup>1/</sup> There have been many conflicting and mutually exclusive claims made on behalf of food donations such as PL 480 Title I (sales for local currency of which about 40-45 per cent is used by U.S. agencies and 55-60 per cent jointly programmed into development activities by the U.S. and recipient governments). If the Title I grain represents an increase in consumption, as is the stated purpose of PL 480, then prices must be reduced and local producers suffer lower prices. If foreign exchange is saved, commercial imports are reduced. It is impossible to achieve both results simultaneously.

<sup>2/</sup> Helleiner, G., "Nigerian Marketing Boards as instruments of fiscal policy", *Economic Journal*, September 1964.

One must conclude that Canada is likely to have only a very small share of the growing LDC demand for food. Our special quality wheat has no particular appeal as it does in Europe; we cannot expect to compete in a give-away programme with the United States.

Canada has donated about \$140 million of food to LDC's on a bilateral basis in the period 1950-1 to 1964-5 inclusive. Canada also gives food through the World Food Programme, a UN project of strictly limited resources, or through various UN refugee bodies. There is no apparent prospect of large-scale multilateral food distributions to LDC's.

#### IV. PROSPECTS FOR CANADIAN AGRICULTURAL EXPORTS

1. Wheat is by far the most important Canadian agricultural export. If wheat stocks accumulate, however, low grade wheat is fed to livestock and wheat acreage is diverted to other grains, which, unless they can be exported, then result in increased output of livestock, dairy, and poultry products. Thus a "wheat surplus" soon becomes a "pork surplus" or other surplus.

In rough figures, the following world trade patterns in wheat may be said to hold. Total trade is about 50 million metric tons of which the United States exports 20-22 million, Canada 10-12 million, Australia 5-7 million, Argentina 2-3 million, France 2-2.5 million, U.S.S.R. 1-4 million, other countries 2-3 million. Of approximately 50 million tons imported the EEC takes 5 million tons; East Europe excluding Yugoslavia 5-6 million; Mainland China 5 million; United Kingdom 4.5 million; Japan 3-4 million; the U.S.S.R. 0 to 9 million; less developed countries, including Yugoslavia 16-18 million; other countries, largely commercial importers 4-5 million tons.

(Note that one million metric tons equals 36.7 million bushels.)

Putting together exporters and importers, it is apparent that the United States supplies and will continue to supply the LDC's almost entirely. It is unlikely that the United States will enter the Chinese market, but may become a more important competitor of Canada in the U.S.S.R. and East European markets than has been the case in the past. Argentina is a competitor in China, Western Europe, Brazil and Peru. Australia is a competitor in all markets except East Europe, and France is a competitor in all markets. Canadian exports are shown in Table 2.

What does all of this mean for Canadian wheat export prospects? Our hard wheats and durum should allow us to export about 1.7 million metric tons to the EEC, 2.4 million to the U.K., .7 million to East Europe, .8 million to (largely) LDC's through grants, U.N. programmes, and sales, 1.3 million to Japan, 1.4 million to China, and 1.1 million to (largely) hard currency "other" countries. This would account for a total of 9.4 million metric tons, equivalent to about 345 million bushels. Our exports to the U.S.S.R. were about 5.7 million tons (210 million bushels) in 1963-4 and will be about the same in 1965-6. One might expect that an average annual Canadian export to the U.S.S.R. over the next five years might be 1.9 million tons, or about 70 million bushels per year. There are three reasons for not expecting our exports to Russia to exceed this amount: first, we can expect the U.S.S.R. to increase its production from the present low yields of about 15 bushels per acre; second, France will undoubtedly increase production and will work vigorously toward capturing a greater share of the Russian market; and third, the United States may drop its self-denying ordinance as to the use of American bottoms in shipping.

If then, we can export 415 million bushels per year and have a

Table 2

Canadian Exports of Wheat and Wheat Flour

		(000 metric tons)			
		<u>1960-1</u>	<u>1961-2</u>	<u>1962-3</u>	<u>1963-4</u> (Provisional)
1. U.K.		2441	2353	2418	2404
2. EEC	Belg-Lux	335	321	265	429
	France	269	45	157	146
	Germany	871	1223	740	984
	Italy	400	108	127	112
	Neth.	<u>158</u>	<u>115</u>	<u>127</u>	<u>97</u>
	Sub-Total:	2033	1812	1416	1768
3. East Europe excluding		457	754	506	739
	Yugoslavia				
4. U.S.S.R.		204	-	-	5686
5. Mainland China		775	1968	1678	1005
6. "Other" countries not LDC's					
	Austria	42	44	42	32
	Denmark	22			
	Finland		67	48	23
	Malta	33	34	30	30
	Ireland	90	68	83	74
	Norway	144	47	50	46
	Portugal	5	1	2	15
	Yugoslavia				202
	Switzerland	178	223	80	202
	U.S.A.	243	159	170	127
	Br. West Indies	115	113	109	121
	South America	206	148	246	248
	Israel	59	23	45	33
	Lebanon	36	16	10	1
	Saudi Arabia	45	23	24	30
	Hong Kong	<u>34</u>	<u>41</u>	<u>40</u>	<u>43</u>
	Sub-Total:	1252	1007	979	1226
7. Japan		1520	1331	1262	1309
8. Other (largely LDC's)		<u>625</u>	<u>713</u>	<u>756</u>	<u>951</u>
Total exports:		<u>9307</u>	<u>9938</u>	<u>9015</u>	<u>15088</u>

Source: International Wheat Council "World Wheat Statistics 1965".

domestic disappearance of 155 million bushels, any sustained production in excess of 570 million bushels must be added to stocks. If our yield is 21 bushels, then the output of 27 million acres could be sold. (Our yields averaged 19.7 in the five years ending in 1963-4, were almost 21 in 1964-5 and about 26 bushels in 1965-6). This means that about 17.5 million acres on the prairies would have to be devoted to crops other than wheat, or an increase of about one million acres over the non-wheat acreage of the past three years.

The above analysis is more favourable than the calculations made informally by several authorities on the subject, who have suggested that anything above 25 million acres in Canadian wheat would be surplus.

2. Oats and Barley: It seems unlikely that additional prairie land can be economically sowed to oats. World exports of oats have declined steadily and no reversal in this trend is likely.

Barley production in Canada has averaged 195 million bushels per year during the period 1957-8 to 1963-4, with 52 million bushels exported and 29 million shipped as feed from the prairies to other parts of Canada. Canadian barley acreage fell 35 per cent between 1952-6 and 1962-4 (to 5.6 million acres), whereas yields rose 13 per cent. Wheat yields were virtually unchanged in the two periods.

World barley production has risen in recent years, and exports are stable at 6.5 to 7 million metric tons (compared with 21 million of corn and 50 million of wheat). In 1963-4 Canada exported 47 million bushels, which was about 13 per cent of world trade. France and the United States are the largest exporters, together accounting for over 50 per cent of world exports.

The important question for barley producers is, "Can they compete with corn?" The cost of producing corn has been reduced by increased yields



and by improved harvesting and handling techniques. Johnson and others have taken a rather pessimistic view of the future of barley vis-à-vis corn. Canadian barley yields have increased 13 per cent between 1952-6 and 1962-4, but British yields increased 27 per cent in the same time in spite of expansion into areas hitherto deemed suitable only for oats. Corn yields increased 28 per cent in Ontario between these same periods.

We must give high priority to increasing barley yields. Most of our barley is used for feed and we should develop and grow varieties which have high and consistent yields whether or not they are suitable for malting. Only about one-eighth of our exports are for malting; a relatively small acreage devoted to malting varieties would meet domestic and foreign demand.

Some foreign observers have commented that the Canadian Wheat Board has been so pre-occupied with its job of selling wheat, in which it has been highly successful, that it has tended to neglect barley. What they term "The Wheat Board mystique" does not extend to barley. The author merely reports this comment; he is unable to judge its validity.

3. Flaxseed and Rapeseed: About 2.5 million acres are devoted to these two crops on the prairies, about two-thirds of the output is exported, and none is imported. Flaxseed acreage has been stable, whereas that of rapeseed has expanded rapidly in recent years. It appears that little expansion in flaxseed exports may be expected, as the competition of synthetic drying oils adversely affects the demand for linseed oil. Rapeseed exports are to Japan and the EEC, and modest growth in exports may be expected.

#### Summary of Prairie Prospects:

Table 3 indicates the recent growth in total acreage cropped on the prairies, amounting to 2.3 million acres between 1953-62 and 1965. (Row 3).

Table 3

Prairie Provinces Crop and Summerfallow Acreages

	average 1953-62	1963	1964	1965
	millions of acres			
1. Wheat	23.5	27.0	29.1	27.8
2. Oilseeds and grains other than wheat*	18.7	16.0	15.1	16.7
3. Total cropped (Row 1 & 2)	42.2	43.0	44.2	44.5
4. Summerfallow	25.8	27.2	26.4	26.6
5. Total (Row 3 & 4)	68.0	70.2	70.6	71.1

\* Oats, barley, rye, flaxseed, rapeseed.

Source: Current Review of Agricultural Conditions, July 1965,  
Canada Department of Agriculture.

If oats acreage declines slightly, and rye, flaxseed and rapeseed remain constant, and wheat has a maximum of 27 million acres, then a million or more extra acres must be devoted to barley. Then as discussed above, barley must be able to compete with corn in world markets, a prospect which implies increased emphasis on higher yields and exports. Alternatively, barley or other grains might be fed in Canada. One million acres of barley will feed about 1,860,000 hogs, which is 28 per cent of our normal production.

4. Dairy products: The dairy products which are, or might be, involved in international trade are cheese, butter, and concentrated milk. About 8 or 9 per cent of Canadian milk production is made into cheese and about one-fifth of the subsequent output is exported. About 45 per cent of our milk enters butter production; imports are banned and production-consumption heavily subsidized. About 5 or 6 per cent of our milk goes into concentrated products, of which 5 to 10 per cent is then exported.

Canada exports about 25-30 million pounds of cheddar cheese annually, almost exclusively to the United Kingdom. Britain produces about 260 million pounds of cheese and imports a total of about 340 million pounds per year. In the British market Canadian cheese has a unique position because it is made from raw milk, and enjoys a substantial price premium over New Zealand, Australian, and British cheese made from heat-treated or pasteurized milk. The Government of Canada now provides a four cent per pound subsidy on cheese exports and the Ontario Cheese Producers Marketing Board is, in 1965, providing a further two cent differential in favour of Ontario cheese exports.

Including a premium for quality, the Government of Canada subsidizes cheddar cheese production by about two cents per pound or about 18 cents per hundred pounds of milk. The subsidy on whole milk made into butter and powder amounts to about 40 cents per hundred pounds of milk. It is ironic that our various dairy programmes result in a heavy subsidy on butter production and consumption -- a product in which we have comparative disadvantage -- while they have failed to bring forward as much cheese as we could export. It seems quite possible to export an additional 10 million pounds of raw milk cheddar per year without difficulty, and to export still more with effort.

It is important that we guard our reputation for raw milk cheddar in the British market. There is a natural tendency for cheese makers to produce cheddar cheese from heat-treated milk because it has higher grades, higher yields, and is easier (more consistent) to manufacture into cheese than is the case with raw milk. A rapidly decreasing proportion of Canadian cheese is made from raw milk. Cheese graders are apparently unable to dif-

ferentiate between raw milk and heat-treated cheddar at the stage at which grading occurs. It thus becomes highly important that plants be spot-checked to ensure that no heat-treated cheese be invoiced as raw milk cheddar.

We have no particular advantage in the export of concentrated milk (condensed, whole milk powder, skim milk powder). Much of our exports in the past decade have been subsidized.

5. Livestock and livestock products: The North American demand for red meat has increased rapidly in recent years and will undoubtedly continue to do so because of population growth and fairly high income elasticity of demand for meats. Because of the low tariffs across the Canada-USA border, price differentials are small for the same grades between the two countries. In recent years Canadian production and consumption of red meat have been almost in balance; there are no apparent reasons why this situation should change, and Canadian producers of beef and pork should expect a continued increase in demand for their products.

As to the export of feeder cattle, there seems to be no reason why exports should encounter conditions different from the past. The rapidly growing demand for beef in the United States and Canada will continue to provide good markets for feeder cattle.

Exports of high quality dairy cattle may be expected to increase in the future, not only to more developed countries, but to LDC's. One would expect that the recent substantial sales to Spain and proposed sales to South Korea of average quality dairy cattle might be duplicated in a number of the developing countries.

6. Poultry: Canadian production and consumption of broilers and turkeys have expanded very rapidly, partly because of increased efficiency in production and partly because of low processing and marketing margins. Canadian pro-

duction is protected by substantial tariffs but penalized by high feed costs and tariffs on production and processing equipment. There are no prospects for substantial exports in competition with low cost American production.

7. Tobacco: Much has been said about the importance of "continuity of supply" in winning and maintaining export markets. In no product is it likely to be more important than in tobacco, where blending of in-and-out sources of supply is regarded as undesirable. About 20-25 per cent of Canadian tobacco production is exported, primarily to Britain, but also to 11 other countries in 1964. Exports depend upon co-operation between producers and processors -- also the main exporters -- and upon continuity of supply, as well as quality and price. From the national viewpoint, land suitable for tobacco production is not very productive for any other crop, and so restricted tobacco acreage involves growing low value rather than high value crops. Increased production and possibly a levy and export subsidy operated by growers and processors would seem to be in the best interests of all. Canadian tobacco is competitive in many markets; along with Rhodesian tobacco it has a favoured position in the major market, Britain, as a result of Commonwealth Preference. One cannot predict what effects political developments might have on Rhodesian exports to Britain.

8. Fruits: Canada is a much larger importer than exporter of fresh and canned fruits except for apples. Prospects for increased exports of apples to the United Kingdom seem fairly good, and would be even better if the present quota system were modified. The world's major importer of apples is West Germany, but Canada has not been able to enter that market because of the preferences given to other EEC partners.

9. Vegetables - canned, frozen or juice: Exports have been increasing, particularly to Britain and western Europe. The main exports in 1963-4 were



tomato juice (15 million pounds), frozen vegetables (11.4 million), and canned corn (5 million). There is no apparent reason why exports cannot continue to increase. The very interesting experiment in Ontario of the Fruit and Vegetable Export Sales (FAVEX) has encountered some problems endemic in this form of organization. In principle, the idea is to have one export "combine" (exempt from combines legislation and penalties) which will provide a common label and export programme for a number of companies. Concessions may be obtained for materials, transportation and so forth in order to make the export combine more competitive. The two major problems of such groups are to ensure uniform standards of produce and to share a limited export market among producers. To any company with existing export markets, the new combine may become only one more competitor.

Some observers have regarded FAVEX as the prototype of many export combines, but it is probably most appropriate only for an industry of many very small producers, none of which has any serious prospect of exporting alone.

10. Beet sugar: Sugar beet growers in Canada produce about 15 to 20 per cent of our sugar requirements.

11. White beans: Canada exports about 450,000 bushels per year -- about one-third of our production -- worth about \$2,000,000. Exports are primarily to the United Kingdom in competition with American beans. Exports have increased in recent years and prospects for further modest increases are good.

12. Soybeans: Canada imports 2.5 to 3 bushels for every one produced domestically. Our exports are to the United Kingdom and occur only because of British Preference. The United States is the major world supplier and a low cost producer, and there is no prospect of Canada becoming self-sufficient.



## V. CANADIAN TRADE POLICY

Agricultural trade policy must be co-ordinated with domestic farm policy on the one hand and national economic policy, domestic and foreign, on the other.

### Objectives of Canadian farm policy

The objectives of our total farm policy, domestic and foreign, must be to contribute to national growth, earn foreign exchange, increase net farm income, and assist the agricultural underprivileged. This seems to involve the following principles.

1. Efficiency in production and marketing must continue to receive primary emphasis. The more efficient the agricultural sector, the more competitive it will be internationally, the higher will be net farm income, foreign exchange earnings, and national growth. Thus research, extension, and those price supports which prevent violent fluctuations in production are essential.
2. Adjustment assistance must be made available, as of right, to those who are seriously disadvantaged by policy decisions made in the national interest. This principle seems to have been recognized in the creation of an Adjustment Board following the recent auto agreement with the United States; it should be extended to other sectors.
3. Assistance to the underprivileged in agriculture can best be done outside the price mechanism through education, ARDA, and other non-price techniques. One technique is that proposed in Britain for the superannuation of farmers<sup>1/</sup>

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<sup>1/</sup> "The Development of Agriculture", Her Majesty's Stationery Office, London, Cmd. 2738, August 1965. The proposal is to provide a £500 grant plus £15 per acre released to farmers up to the age of 55 who wish to give up farms falling below the "commercial" standard. For similar farmers over the age  
(Footnote continued on next page)

4. Promotion of agricultural exports: It is now appropriate to re-consider the five questions presented on Page 7, which would influence our general approach in agricultural trade policy.

(1) Question - Can Canadian farmers compete with others under conditions of reduced protection and subsidies?      Answer - Yes, in most commodities.

(2) Question - In the case of products in which Canadian producers would be at a comparative disadvantage, can we convert resources to other products in which we have some advantage?      Answer - Yes.

(3) Question - Can we compete in subsidies and protection?      Answer - No.

(4) Question - Is there any real likelihood of moving toward freer international markets?      Answer - Yes, although the odds are about even. In earlier sections we predicted no substantial re-orientation of farm policy in most countries and areas taken individually. With the Kennedy Round and later discussions, general concessions are possible.

(5) Question - What are likely market trends for farm products of relevance to Canadian trade?      Answer - Generally favourable for wheat, livestock, fruits and vegetables, less so for dairy and feed grains.

#### Proposals for Canadian Trade Policy

1. General. Canada should take the lead in pressing aggressively for the reduction of trade barriers and price subsidies. Most countries have followed policies of agricultural protection and subsidization since 1930; there now seems to be some opportunity of reversing the trend and we should play our part in it. Our unwillingness to offer linear tariff reductions in the

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(Continued)- of 64, there would be a life annuity, and for farmers between the ages of 55 and 65 a choice of grant or annuity. A quite similar programme in the Netherlands was described briefly in "Agriculture Abroad", August 1965, Canada Department of Agriculture (p. 17).

Kennedy Round gives the impression that we are rather reluctant participants in moves to free trade.

It must be recognized that reduced protection involves the total economy and not agriculture alone. This paper has argued that Canadian agriculture would gain by world-wide reductions in tariffs and subsidies; reduced protection for Canadian industry has broad implications which have not been studied by the author. It seems evident, however, that Canadian agriculture is adversely affected by tariffs on poultry and livestock processing equipment, by "voluntary" quotas on Japanese exports to Canada, and by high tariffs on many imported manufactures and components. Any move toward freer trade in agricultural products should be contingent upon reduction of those tariffs which reduce the competitive position of Canadian agriculture. It is in this area that national and agricultural interests may conflict; there is no necessary conflict, however, because it would appear to be in the national interest to adjust in the direction indicated by comparative advantage. What is more likely to be the case is a conflict between sectors (for example agriculture and textiles). It is evident that Canadian agriculture has made the most remarkable adjustments in the face of technological change, foreign protection of agriculture, and limited domestic assistance. If Canadian industry has not yet made the adjustments necessary to become internationally competitive, it would seem to be in the best interest of the economy that such adjustments be encouraged by greater international competition.

2. Second best alternatives: In his excellent paper in this series, Mr. Royer has suggested that negotiations on tariffs, quotas, and price supports may be less productive than negotiations on access to markets. If in fact, it proves impossible to make progress toward freer trading conditions, then

other productive approaches must be pursued. There is nothing inconsistent in pressing strongly for a return to more normal trading conditions and concurrently participating in agreements, such as the U.K. cereals agreements, which seem to be in our best interest.

3. Wheat: Canada should continue to support the expansion of surplus disposal through the World Food Program. The Canadian Wheat Board has done a fine job of marketing wheat, but we must recognize that the Temporary Wheat Reserves Act subsidizes wheat producers by about 10 cents per bushel and this Act should itself be regarded as temporary.

4. Feed Grain:

- a) Canada must emphasize research and extension designed to increase barley yields in order to improve our competitive position in feed grains.
- b) The Canadian Wheat Board should press vigorously to increase our export markets for barley.
- c) If concessions are to be made by Canada in the interest of freer trade, we should consider the elimination of import licenses on wheat, oats, and barley.
- d) If concessions are to be made toward reduced subsidies, we should consider a reduction in feed-freight subsidies.

5. Dairy Products:

- a) Canada should provide a more favourable price for cheese milk vis-à-vis milk for butter in order to encourage cheese production.
- b) We must ensure that all cheese going into the British market is raw milk cheddar.
- c) We must continue to press with the Government of the United States for a relaxation of its quotas on Canadian cheese.
- d) If concessions are to be made toward reduced subsidies, we should consider

reducing the present butter subsidy.

6. Livestock: Canada should consider negotiating a free trade pact with the United States, eliminating all tariffs and quotas on livestock, meat, production and processing equipment, and feed. In pork, Canada should continue to provide premiums for high quality carcasses in order to help maintain our reputation for quality in both Canadian and American markets.

7. Apples: Canada should press the United Kingdom to "make Canada part of the Commonwealth" in regard to quotas on imports.

8. Tobacco: Closer grower-processor co-operation, possible levy-export subsidies, and increased production all seem to be desirable in order to provide continuity of supply and increase exports.

9. Export Boards: A number of conditions are necessary for success in exporting: competitive prices, consistent quality as demanded, continuity of supply, credit, and "export promotion" in the form of contacts, advertising (in the local tongue), service, attendance to complaints, and so forth. A question of principle becomes, "Can independent competing firms meet these necessary conditions?" Other alternatives are government marketing boards with compulsory powers, or business combinations such as FAVEX.

The only clear generalization should be that no one form of organization should be prescribed for all conditions and industries. A "combine" may be most successful where there are many small firms; exporting appears formidable to any one firm. Marketing boards, whether federal or provincial, normally depend upon the private trade to perform certain functions, especially transporting and physical handling. This is not only politically sound, it is usually economically justified as well. Marketing boards do permit a more organized "industry approach" to exports in pricing, grade regulations, and continuity of supply.



10. Export credits: To the end of 1964 the Export Credits Insurance Corporation had provided insurance of \$119 million under Section 14 and almost \$450 million under Section 21 for the export of farm products -- mostly wheat and flour. Credit for the sales to China was provided by the government, not by the Corporation.

11. Government promotion: A Canadian abroad is invariably impressed favourably by the competence and activity of our Canadian trade commissioners. The "trade crusade" launched several years ago seemed to have favourable results. Yet the Financial Post of May 1, 1965 reported, "Common Market buyers say that although Canadian government trade commissioners are active, they see few Canadian products in the annual European food exhibitions and rarely get direct approaches from Canadian salesmen. On the other hand, Americans, Australians or South Africans are calling constantly and making spot sales of products that buyers would be just as happy to buy from Canada, such as honey or canned peaches".

Conclusion: Agricultural exports play a key role in contributing to the well being of the farm sector and in earning foreign exchange. Fortunately, Canadian agriculture has made remarkable adjustments in response to technological and market developments, and in so doing has contributed to the growth of the entire economy, and to making Canadian agriculture competitive internationally. Our best interest would be served by a world wide return to freer markets, but, if we find our best efforts in this direction frustrated, we must attempt to negotiate "second best" alternatives to give us access to world markets. These may involve agreements as to access (such as the U.K. cereals agreements) or bilateral free trade in certain commodities,



or the negotiation of fairly involved rules of the game for trade. Throughout, however, we must be willing to take the lead in a return to "normal" trading relations.

### CLOSING REMARKS

by

David L. Kirk

Canadian Federation of Agriculture

This meeting has just finished approving a Conference Statement. In addition, it will, following the Conference, have the benefit of a systematic report and commentary on the discussions by Dr. Anderson. It would, therefore, not be appropriate, nor will I attempt in this statement, to do the job of reviewing the discussions and papers. That leaves the question of what I am doing here at this time, unless it is merely to say goodbye.

This I find is not an easy question to answer. What I am going to do, and I hope you will bear with me, is to simply range over a few things that are on my mind, some to do with the substance of the trade policy issues that have been before us, but mostly to do with the business of dealing with trade policy issues.

I read somewhere once that the distinguishing characteristic of a writer -- what in fact makes a writer a writer -- is an abiding conviction that it is important for other people to receive the benefit of whatever he has on his mind. My profession is not that of author, but I am for this occasion going to adopt as my own his basic credo.

The 1965 annual workshop of the Canadian Agricultural Economics Society was on the subject of international trade policy and problems. At that meeting one of the groups arrived at the recommendation that economists

and other professional people interested in international trade policy, but not employed in government, should have some means of systematically looking at trade policy problems and research results, among themselves and with government people, and indeed have the opportunity of advising government in a more systematic formal way: some kind of advisory committee, if you like. This recommendation, as I got it, arose from a conviction that professionals outside active service in government neither have means of contributing as fully and effectively as they should to thinking on trade policy, nor the means of access to the information and understanding of trade policy developments and problems, seen from a government point of view, that is necessary if they are to perform their functions as professionals fully and adequately.

This struck me as an exceedingly interesting and significant conclusion for that group to reach. Now I know that some economists outside the civil service attempt to keep closely in touch with what is happening governmentally, and some succeed. Some go to considerable trouble to travel regularly to keep in touch with developments in other governments and administrations, for example, the GATT and the EEC. There are, no doubt, some effective processes of exchange and consultation of which I am unaware.

Nevertheless, the recommendation was made. My purpose here is not to go into the ins and outs of that particular recommendation, but by this means to raise the issue of the role, not only of professionals, but of non-governmental organization and industry in the process of policy formation.

Faced with an increasingly felt need for systematic attention and more responsible and detailed participation in policy-making by

nongovernmental people and groups, we are starting to evolve new institutions to meet the need. Both the Councils sponsoring this Conference, though they are quite different organizations, reflect this need. So do less-official institutions like the Canadian Trade Committee, for example. There are others.

The Economic Council and the Agricultural Economics Research Council have felt, and rightly, that this Conference is one means of discharging their responsibilities in research, enquiry, consultation and policy formation in the international trade and agricultural policy fields.

It is always possible at such a Conference that there is some sense of frustration at lack of results in terms of firm agreement on policy, or even on the analysis of particular problems. I hope the delegates to this Conference do not feel this way and I do not think it should be so. To me this Conference has been a valuable one, but it is only a start -- an event in a process that should continue.

I do not necessarily mean regular Conferences on this model -- though that is one way. The basic need is for continuing discussion and exchange, based on steadily improving information provided partly by means of this exchange, and partly through research. If frustration results from this Conference, it should arise out of a failure to make this something of a starting point.

You either operate on the basis that the country will work better if people and groups in and out of government pay attention to each other and learn, and that all have a contribution to make, or you don't. If you do,

you have to determine how the process of doing this is to be moved forward, this Conference being one forward step. I make this observation to all present. The process I am talking about involves, of course, research and study -- you can't make bricks without straw. It requires a policy of publication. It involves communication between people on the significance and validity of the findings of the research and study. It does not necessarily involve agreement on policy, especially policy where the interests of diverse groups do not appear to be, or are not, altogether compatible. There is a place after all for what is often known as political decision-making in the democratic process.

However, if the economists are even partly right (and I think they are) when they say that everybody is in danger of losing if adequate account is not taken of the lessons to be learned from the apparently unfellable old oak of fundamental economic principles, then the process of learning and consultation should eliminate at least some conflicts of interest that are not real, but only apparent. This process should also lead to better accepted and better understood policy decisions, and a greater degree of coherence in policy.

We should, if I may say so, in meetings like this, learn to better utilize economic analysis, and discuss its validity as economic analysis, learn to bring the findings down to terms the layman can understand, and discuss them in these terms, without drawing a very long policy bow over every proposition and reacting, respectively, as if the future of farmer organization, the reputation of the government, the entire wage and/or profit structure of industry and the emotional health of the economists were

at stake on every point. Of course, I know this cannot be done altogether -- even shouldn't be -- but we might manage usefully to move a little more in that direction.

It is not my intention to attempt to blueprint the means by which this process should be carried on. There actually is no one way, I am sure. Some institutions will be assisted and stimulated in their own regular work. Undoubtedly the Economic Council will from these discussions and the papers presented be better able to carry out its responsibilities in their agricultural and trade aspects. No doubt the same is true of the Agricultural Economics Research Council. Lessons in this regard should, I think, be gained by farm organizations as a result of this meeting. I do not exclude others in this assembly but will not continue the listing.

But, in addition, we need to develop regular means of communicating, of learning the lessons from research and new ideas. Conferences? Seminars? Specialized organization staff? Perhaps all these things, often concentrating more closely than we have been able to do here on specific areas. My appeal is simply that we think very hard about this question and try and develop more effective methods. I personally think it is nonsense to act as if economists -- and I would add sociologists -- have nothing important to say and to teach us. They have, and organizations and business need to make better use of the contribution they have to make, and even hopefully learn to contribute to evolving better programmes and directions in research from time to time. I think it is equally nonsense to act as if organized interest groups (farm, business, labour) represent a constant,



totally predictable politically unconstructive pressure factor in the situation to which some response must, unfortunately, be made, but that is all. This latter view of the world, which I know no one in this meeting holds in its pure form at least, with the supposed implications of it lumped under the general problem of "political expediency", does us, and has done us, a lot of harm in this country, in my opinion. And the blame for not having moved further in correcting this view must be widely shared.

I would bring my remarks concerning the process of research, learning, and consultation in our society to a close with two further observations. The place of government in this process is very important and very difficult, whether government people know it or not. I would again draw to your attention, though you already know it, that both the sponsoring bodies of this Conference, in their different ways, represent acceptance of new and constructive concepts by governments in this regard. My second observation is that the crucially important and necessary role of members of Parliament must not be neglected.

On the substance of the subject matter of this Conference, I have very little to say, and should say less because the ground has been gone over. I cannot, however, resist just one or two observations. In doing so I am in no sense either being comprehensive or setting out a careful ordering of subjects in terms of importance.

First of all, it is not necessary to agree, for example, on the economics of price supports, to learn a lesson on the economics of education and act on it. I know how difficult it is for any individual or group to

have more than one operative preoccupation at one time, but we will have to learn. I plump for a real attack on the "education" aspects of the farm problem.

Second, I have a personal feeling, difficult to substantiate for obvious reasons, that the Canadian government in its trade negotiation and policy formation is excessively expedient in its approach -- that it is not looking hard enough for possible new initiatives and concepts of our own, but rather to too great an extent reacting ad hoc to the pressures and initiatives of others. So much for punches.

Third, I would like to see a lot more elaboration of this business of the rapid, if not "immediate", upward adjustment of costs to price improvements -- both theoretically, and in terms of empirical analysis. I think we should pay some close attention to this, and maybe learn some lessons. We need to think through the whole question of the place of land values in our economy -- for costs, for comparative advantage, for farm income. We need to ask the questions: What happens? Why? So what? Then come the policy alternatives.

Finally, I would like to observe that even though the economic changes of the past, the situation in the present, and the outlook for the future are obviously profoundly affected by technology, I have the distinct impression that the conjugal relationship between economic research and research in the agricultural and technological sciences is less than satisfactory: that scientific research is not informed and guided sufficiently by economic analysis and projection, and that economic research is insufficiently grounded in understanding and awareness of technological realities and emerging prospects.

## CONFERENCE STATEMENT

International trade and Canadian agriculture was the subject of a national Conference held at Banff, Alberta, on January 10-12, 1966. The Conference was sponsored by the Economic Council of Canada and the Agricultural Economics Research Council of Canada. It was attended by ninety participants invited from all parts of Canada and representative of farm organizations, industry, labour, universities, and the government service at Federal and Provincial levels.

In preparation for the Conference, background research studies prepared by a number of experts were commissioned by the two Councils.

Canadian agriculture is a large and important sector of the Canadian economy. In recent years, annual cash receipts from Canadian farm operations have exceeded \$3 billion. While there are significant differences between regions and products, a substantial part of the total production is exported, exceeding one quarter in most years. These agricultural exports continue to account for a very important part of Canada's total exports.

It was apparent from the research papers and the discussion at the Conference that there is a substantial part of Canadian agricultural production for which Canada has a significant competitive advantage with the rest of the world.

Such advantage has been apparent in the case of such commodities as wheat and wheat flour, flax-seed, rape-seed, dairy cattle, feeder and slaughter cattle, hogs, a variety of meats, raw milk cheddar cheese, tobacco, maple products, forage crop seeds, and some fruits and vegetables such as apples, white beans and seed potatoes. In some of these commodities we have

strong competitive advantages; in the case of others, such advantages are apparently less strong and exist in relation to selected countries. In relation to the United States, Canada's competitive position for many of these commodities varies by seasons of the year and other circumstances such as the regional pattern of production and transport costs.

There are, of course, a number of commodities for which Canada's international competitive position in agricultural production is relatively weak. These include such commodities as butter, wool, lamb, sugar beets and some fruits and vegetables. Also, there is a group of agricultural products that are not produced in Canada.

The fact that Canada's competitive position is quite strong for a wide range of commodities means that freer and expanding trade in agricultural products is very much in the interest of Canadian agriculture and in the interest of the country as a whole. The achievement of freer trade, including agricultural products, should be a major objective of government economic policy. This will involve expansion of both exports and imports, and will require adequate and effective programmes to facilitate adjustments which would be associated with such changes in trade.

The picture represented by agriculture around the world, however, is one of a very substantial degree of protection. Substantial general progress has been made in trade negotiations towards the reduction of trade barriers for nonagricultural products over the post-war period. Very much more limited progress has been made in the case of agricultural products; indeed in some respects agricultural trade has been placed under increased restrictions and has been damaged by the domestic agricultural policies (including subsidies) in many countries. Agriculture, to a considerable

extent, has been treated as an exception in international trade discussions, and the rapid expansion in world trade during this period has generally not been shared by the agricultural industry.

Many countries, including the United States and, to a lesser extent, Canada, have made use of highly restrictive measures with respect to agricultural trade. In particular, the situation is exemplified by the European Economic Community. In the case of industrial items, member governments accept free competition inside the Community and rely on a common tariff for commercial trade with the rest of the world; by contrast the steps taken thus far in the formulation of the common agricultural policy are intended to provide all producers within the Community not merely with highly protected national markets but also with a margin of preference to other national markets within the Community -- a margin of preference over suppliers from outside the Community. This policy of the Community effectively reduces the outsider to the role of a residual supplier who can only enter the market when all regional surpluses have been absorbed by the deficit countries of the Community.

It is apparent that Canada and other efficient agricultural producers are faced with a real challenge in attempting to achieve expanding agricultural trade in this world of trade restrictions. In the area of commercial policy there is now, under the Kennedy Round of trade negotiations, a major opportunity which must be utilized fully to liberalize trade. Canada will have to give concessions in its own trade barriers in order to open up opportunities for the expansion of exports. It is clear that new techniques will be needed in the field of agriculture to obtain meaningful increases in trade.



It is unrealistic to expect that all barriers to world-wide price competition in agriculture can be removed or substantially reduced. A promising approach appears to be in multilateral discussions with the objective of reaching comprehensive agreements on major commodities. Such agreements among exporters and importers would cover all aspects of trade, including conditions of access and levels of prices. Some provision could also be included regarding appropriate methods for surplus disposal and concessional sales. While it was recognized that such negotiations would be difficult, it appeared that this approach should command our fullest efforts. The view was strongly held that Canada's interests would be well served by an appropriate international mechanism for price stabilization in the case of wheat, and perhaps other major products.

If it should not prove feasible to follow a multilateral approach to commodity agreements, a possible alternative would be to obtain organized access to the markets of individual importing countries by special arrangement between each importing country and its suppliers, as indeed Canada has already done along with other grain exporters in the case of the United Kingdom.

With respect to the less-developed countries, there were a number of particular considerations raised in the Conference discussions. Explosive increases in population have been occurring in many of these countries. These increases, coupled with the relatively slow progress in expanding agricultural output, are creating serious food problems. There are a number of ways in which Canada can help to alleviate these problems. Canada, as well as other developed countries, must be prepared to import more of the products produced in less-developed countries. They will then be able to buy more of



the food and other products they need from the developed countries. Also, on occasion Canada may have to adjust agricultural exports to meet more nearly the specific needs of these countries.

At the same time, however, the less-developed countries will themselves have to produce much of the increased amount of food that they will require; thus, Canada and other advanced countries will have to assist them in general economic development and encourage them to make more effective use of their own production potential.

Nevertheless, there has been and will continue to be an important role for an increasing amount of economic aid to the developing countries, including increased food aid. The Canadian government is to be commended for enlarging its aid programmes, including food aid. A still further enlargement is called for. Food aid should, of course, be integrated with over-all programmes of development, but there are many situations in which food aid can be used to particular advantage. It is important that the needed expansion in food aid programmes be as largely as possible on a multilateral basis, with adequate safeguards to prevent harmful effects on food production in the less-developed countries. But this should not exclude bilateral programmes when these could play an appropriate role.

With respect to agricultural trade with centrally planned countries, the available information suggested that there are possibilities of exports to Mainland China on a regular basis, but that there is less certainty regarding the potential size and stability of the market in the Soviet Union and the Eastern European countries. Some evidence was presented to indicate that steps are being taken in Russia aimed at increasing output so as

to enable that country to produce enough wheat to meet domestic needs as well as import requirements of Eastern European countries.

Attention was drawn to the inadequacy of transportation facilities, which constitutes a serious handicap and causes continuing difficulties in rail transportation and handling of grain at ports of shipment. At times this has not only delayed shipment but prevented Canada from taking advantage of export opportunities, resulting in very significant and perhaps permanent losses. There is an urgent need to provide transportation facilities adequate to meet the needs of Canada's expanding trade and growing economy.

To meet the realities of changing patterns of trade and shifts in domestic demand, it was recognized that continuing adjustments in Canadian agriculture are needed. There have already been extensive adjustments over the post-war years. Over half a million fewer farmers and farm workers are now engaged in agriculture; the additional labour available to the nonagricultural sector has contributed greatly to the growth of the economy. Continuing rationalization and increasing productivity are still essential for the achievement of higher incomes in agriculture. New and more adequate public policies will be required to facilitate the necessary adjustments. Such policies must recognize and deal with the great variety of problems arising from income differences between individual farms as well as entire regions. It was agreed that the support prices had an important role to play in protecting farmers from short-term price fluctuations but that programmes to alleviate the low-income problems of small farmers could not be achieved wholly through the price system. In the case of the dairy industry, it was recognized that its international competitive position in respect to several

of its important products was weak, and that some measure of continued protection or assistance was needed.

In the discussion of appropriate domestic policies, it was evident that positive programmes must be developed to cope with the disadvantages unique to agriculture; these disadvantages relate in particular to such matters as education, health services and housing. In the case of education, a major effort is required to reduce the widespread lags in education in agriculture as compared with the nonagricultural sector. Higher levels of educational attainment are needed because of the increasing level of managerial skills required in agriculture, and the need for a more rapid adoption of better farm practices. Extensive research efforts for the development and improvement of cost-reducing technologies, better marketing methods and procedures, and resource adjustments are needed, and priorities should be established for these purposes. There is need of more study and research of the role to be played by marketing boards and co-operatives, in the development and more effective penetration of export markets. More highly developed and strengthened information and extension services are required to encourage the full use of available knowledge in regard to both technical matters and market opportunities. More adequate policies and programmes in these fields would assist Canadian agriculture to improve its competitive position at home and abroad and thus benefit both Canadian farmers and consumers.

## AN APPRAISAL OF THE CONFERENCE

by

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The Conference was convened to examine (1) Canadian international policy and problems with particular reference to agricultural trade, (2) Canadian agricultural policy and problems related to agricultural trade policy, (3) international agricultural trade policy and its implications for Canada. The papers and the discussion ranged over principles, practices and policy. Before adjourning the Conference made some clearly stated recommendations which were comprehensive considering that they represent a consensus from representative leaders and professionals of farm organizations, industry, labour unions, the economics profession, government officials and consumers.

The proceedings were marked by a feeling of realism, a sense that the statement of the Conference could influence Canada's stand on world trade in agricultural products. This feeling was due to the knowledge that the Kennedy Round has placed the item of a downward revision of trade barriers on the agendas of national governments and world councils.

The background papers, covering four main subjects, set the course for the meeting. The first subject dealt with the logical aspects of the economics of trade and of domestic agricultural policy; it was covered by two papers. The second topic was concerned with world agricultural production and trade; it included one paper on what had actually happened to production and trade in the post-war period; another dealt with the possibilities of

trade with the centrally planned countries. Two others covered, respectively, the techniques for expanding commercial and noncommercial sales. The subject of the basic competitive position which Canada held was treated in one paper. The final one listed the alternatives and opportunities which appeared to be open to Canada in respect of her policy for trade in agricultural products.

The reason that the Conference was able to handle as many topics as it did was due to the high quality of the background papers and the careful study of them by the participants prior to the meeting. The participants had done some profound thinking on the subject of the Conference; they brought to the meeting the knowledge and the insight of decision-makers and administrators. The papers contained carefully reasoned analysis of what is involved in world trade; the authors had done their work carefully so that the logic and the data which impinged on the main issues stood out clearly. The quality of the work is indicated by the fact that neither the data nor the analyses were strongly challenged by the participants, except on one point; that was on the matter of efficiency, the meaning of which seems to be different to the economists than it is to the primary producers.

The combination of logical papers and practical interpretation provided the basis for two and one half days of lively discussion. The debate enlarged upon and emphasized some points, and presented the position of particular groups within the agricultural economy on the over-all concept of freer trade and the domestic policy which should accompany it. The significant feature of the debate was its constructive tone; where there were disagreements the arguments were put forward so as to enrich the point at issue.



## THE BACKGROUND STUDIES

Young. - On the first topic Young gave the meeting the cold logic of deductive analysis which leads to the principle of international trade, that economic welfare is maximized under a system in which prices are determined under free trade in competitive markets with a free exchange rate. The author went on to explain that the existence of trade barriers to the flow of agricultural products internationally could be accounted for by the fact that the mobility of resources in agriculture was not equal to the pace of technological change and the slow rate of expansion of demand. Thus many countries found it easier to impose trade restrictions than to undertake the painful economic and political process of transferring the resources to other sectors of the economy.

When the balance of payments rather than the exchange rate is used as the criterion of equilibrium in the trade between nations, then a country might look for a product to fill gaps in the balance occasionally. Agriculture is not particularly suitable to supply products to make up a short-run shortage in foreign exchange; many other industries have shorter production periods making them more suitable for offsetting adverse movements in the balance of payments.

Young noted the particular reasons why governments have become involved in price supports for agriculture with the consequent restrictions on international trade. The first is price instability which results from uncertainties in output associated with low price elasticity of demand for farm products. The second is the chronic income disadvantage which agriculture suffers, and which arises out of five characteristics of the industry,



which all producers, having heard them repeatedly from economists, must now know by heart. These are, low income elasticity of demand, a rapid rate of technological change, a substantial increase in the quantity of capital employed in agriculture, a relatively slow process in labour mobility, and the extent to which agriculture closely approximates a purely competitive industry.

The author concluded that there was little reason for making agriculture a special case in the sense that it should be an exception to the basic principles.

Floyd. - This paper gave consideration to alternative agricultural policies in the light of the effects of international markets on Canadian prices. He pointed out that the prices paid and received by Canada for agricultural products which enter into trade are determined by forces, for the most part, beyond her control. He also noted that to the extent that foreign governments subsidized the production of agricultural commodities the world's supply will be increased to the detriment of the prices which Canadian producers will receive. He pointed out that conflicts between domestic policies and expanding international trade could arise through government manipulation of the prices of farm products. For example, if price supports were applied to a commodity, importation of it would have to be restricted in order to make the price support effective in the domestic economy. He said that internal agricultural policies do not conflict with one of maximizing the gain from trade unless they, in some fashion, disturb the pattern of trade that would result from pricing in accordance with long-run forces of supply and demand.

Shefrin. - This study presented data on what had actually happened in world production and trade in agricultural products during the post-war period. In the process Canada hadn't gained; her share of world wheat trade was 31, 23 and 28 per cent respectively, pre-war, 1963 and 1964; during the same period the United States increased its share from 8 to nearly 40 per cent of world trade in wheat.

Canada is a large exporter of agricultural products, ranking fourth in the world. The best export markets for Canadian agricultural products have been the developed countries but during the past decade agricultural exports to both the United States and Western Europe have declined. During the past five years exports of a diversified group of agricultural products have not increased; Canada's share of the world trade in feed grains has declined as has also the importance of meat and dairy products in the post-war period. The sale of wheat to the centrally planned economies, on the other hand, has increased markedly.

The world's agricultural production is now 70 per cent higher than in the pre-war period but this increase represents little gain on a per capita basis. What increase there has been has taken place in the developed countries and the indication is that the less developed regions of the world are steadily losing the capacity to feed themselves.

The developed countries, on the other hand, are very dependent on each other for market outlets for temperate-zone farm products but production in these countries of many similar commodities has risen to the point where the market cannot absorb more at prices which are remunerative to farmers.

Kahan. - His paper brought to the Conference a penetrating analysis of the main inputs going into agricultural production in Russia. The attempted expansion of grain output there has not been as productive as had been anticipated. The increase in sown acreage in grain, for example, was 25 per cent from 1953 to 1964, but the increase in output had not nearly approached that figure. The labour force in agriculture has been heavily weighted with older workers and the skill-level is not high relative to the needs of modern grain production. Farm machinery is allocated according to central plan and this method has had the effect of favouring the state farms over the collective farms.

In Russia the result of combining an extensive and expanding land area with an inadequately trained labour force and with an insufficient and to some extent badly distributed stock of machinery has been a high-cost agriculture. Kahan noted that this fact does not necessarily open the way to low-cost grain producers like Canada to sell to Russia in the long run; the Russian goal is to increase both the efficiency and the volume of output by at least 25 per cent. A large amount of capital recently has been allocated to develop the fertilizer industry; this investment probably will be much more economical than the previous expenditure on land extension and could make Russia self-sufficient in food grains.

Royer. - This paper emphasized the damage done to international trade in agricultural products by the domestic policies pursued in the post-war period. These policies served to extend agricultural protection well beyond tariffs and into other, even more objectionable, barriers to trade. While governments may now be somewhat disillusioned, having experienced the shortcomings of price supports, they cannot quickly reverse themselves in

these policies; the structure of agriculture created by price supports is long-run and not readily changed to meet competition from abroad. Thus the author recommended that emphasis be placed on access and fair terms of competition in agricultural trade relations between the developed countries.

Royer also noted the challenge presented by potential markets in underdeveloped countries which will eventually emerge with new purchasing power. As a means of promoting these sales, Canada might well look to the possibility of assisting these countries to obtain the necessary foreign exchange by importing from them goods which Canada now purchases elsewhere.

Menzie. - He dealt with what are commonly called noncommercial arrangements. He made the point that the line between commercial and non-commercial sales in agricultural trade is not as sharp as is often assumed. There were barter and loans during World War II, and gadgets of protectionism during the '30's; in that view gifts of food or the acceptance of nonconvertible currencies in payment are only an extension of practices previously used in foreign trade.

Menzie's general assessment of concessional sales of food was that they are not particularly efficient as a form of aid but if managed well they may contribute to growth, stability and general welfare. In analyzing non-commercial sales one must take into account the fact that surpluses do exist and that the political situation in many countries ensures that they will continue. There now has developed in the world what the author calls a 'psychology of acceptance' which is a highly important element determining the potential expansion of food aid.

The real reason for food aid is that there is a large and growing

need for increased food supplies to improve nutritional levels and to aid in development. It seems unlikely that the developing nations will be able to meet these needs without help.

MacEachern and MacFarlane. - A significant point brought out by MacEachern was that Canada maintains an over-all comparative advantage to the rest of the world in agricultural production. There is a relatively stable advantage in a number of products which include wheat, barley, flax-seed, rape-seed, milk production, grade dairy cattle, some cheeses, tobacco, turnips and some fruit. Then there is a competitive advantage relative to the United States which varies by seasons and regions, and includes feeder and slaughter cattle, hogs, eggs, apples and potatoes.

The competitive advantage which Canada enjoys relative to the rest of the world has been reduced over the past decade or so; this change has been masked by the magnitude of the wheat exports in recent years. MacEachern listed many factors that had contributed to rising costs of production including the high level of industrial activity which served to increase farm wages 4 to 6 per cent per year. The price of purchased inputs has increased at about 3 per cent per year and certain inputs, for example, fertilizer are more costly in Canada than in most countries. The gain in productivity of about 3 per cent per year has offset some of these costs but not enough to improve the net income of agriculture.

MacFarlane noted that restraints on trade account for much of the pattern of structural changes in importing countries. These restraints tend to distort the comparative advantage of most farm products. He suggested that Canada may have lagged in the adoption of farm business organization and practices consistent with rapid improvement in efficiency. He said that



there is need for improvement in the internal organization and operation of Canadian farms and in product and factor markets. He deemed it particularly important that the relationship of the agriculture of the United States to Canadian agriculture be critically examined in view of its importance as our largest market and strongest competitor.

Campbell. - This paper was on alternatives and opportunities; it formed the focal point for the proceedings.

#### THE PROCEEDINGS

Freer and expanding trade. - The debate, influenced by a clear, concise statement of alternatives and opportunities contained in Campbell's paper, converged on the question, What should be Canada's attitude towards freedom of international trade in agricultural products? The answer given by the participants, expressed in the final statement, was that freer and expanding trade in these products would be in the best interests of Canadian agriculture and of the country as a whole; they further recommended that the achievement of freer trade, including agricultural products, should be a major objective of governmental policy.

The Conference also rebuked the world, including Canada, for its restrictive measures with respect to agricultural trade; it was implicit in the statement though that, until agreements were reached with other countries for simultaneously relaxing trade barriers, it would not be possible for Canada to proceed unilaterally to expose its own agriculture to freer trade. This stand is in line with the generally held belief that one country cannot gain from a unilateral reduction in trade barriers, and that trade restrictions are weapons with which to bargain for access to foreign markets.



The participants entered two caveats. One of these concerned commodities which they felt must be considered as exceptions to any adjustment towards freer trade; these would include agricultural products now produced in Canada which could not compete in world-wide competition. The dairy sector was cited as the principal example of a section of agriculture which is dependent upon maintaining restrictions of trade or other forms of assistance; its revenue would suffer severely if dairy producers were exposed to competition with the low-cost producing areas of the world; there are other products, such as certain fruits and vegetables, which could not face international competition without some protection. The second reservation pertained to the protection and stabilization of farm income. This reservation was concerned with farm income generally and was broader than the expressed need for protection in the case of specific products with weak competitive advantages. It arose out of the feeling that there was a chronic tendency of costs to press hard against revenue.

Having taken the stand that Canada should press for freer trade the Conference faced up to the question, What could Canada do to implement the goal of freer trade in the world at large? The meeting offered some suggestions how freer trade might be approached in the best interests of Canada and Canadian agriculture. The answer, which the Conference preferred, followed the recommendations made by Campbell and Royer in their respective background studies. The participants concluded that there was an important place for multilateral discussions with the objective of reaching comprehensive agreements on major commodities. These arrangements would be made between importers and exporters covering all aspects of trade, including conditions of access and levels of prices. If it should not be possible to

follow a multilateral approach to commodity agreements, then the Conference recommended that the next best would be to obtain organized access to the markets of individual importing countries by special arrangements between suppliers and importers; the Conference noted that there was already an example of the application of that technique contained in import arrangements used by the United Kingdom.

Noncommercial trade. - An area in which the Conference agreed that progress might be made in expanding trade was in sales made under what is commonly known as food aid; it was agreed that food did have a place in the programme of assistance to developing countries. The participants recommended that the government should extend the over-all amount which Canada contributes to developing countries, including an increased amount in the form of grants to the World Food Program.

The noncommercial aspect of trade came up several times for it is a feature of international trade in agricultural products which has grown in importance. It involves gifts, and concessional sales at very low prices or under special terms such as accepting nonconvertible currencies in payment. The noncommercial sales are based on very different motives than those which govern the commercial trade; it seems almost inevitable that well-to-do countries are going to become involved in it, along with the more strictly commercial exchange of goods.

What the participants were saying was that the world is short of food and that somehow the whole matter of trade in agricultural products must take this fact into account; trade between countries with big purchasing power does not contribute directly to solving the problem of real food shortages which is basically one of poverty.

In promoting food aid one has a very different set of buyers to persuade than in the case of commercial sales. The real purchasers of food aid are the taxpayers who are not naturally enthusiastic, being reluctant even when they are being taxed for services which they themselves use. When it comes to selling them something which somebody else is going to consume it is apparent that the salesmanship will have to be of a high order.

So far food aid has been granted mainly when there were surpluses so that it did not cost the donor very much in income forgone. It should be noted that the United States, which has been the big contributor to food aid, has been in a position to make contributions at a relatively small opportunity cost. The reason is that the domestic programmes in the United States have accumulated supplies of certain commodities so that the revenue forgone as a result of food aid is not nearly as large as it would be if the full cost of the resources used to produce the food were taken into account.

If countries abandon policies which tend to create surpluses so that the supplies which have formed the basis for food aid dwindle, they will have to face up seriously to the question of how far to participate in this phase of trade. I suspect, if supplies are not on hand as a side effect of domestic policy supporting agricultural income, that donor countries may look rather differently at the cost of food aid. They will examine its cost from two standpoints; first, they will reckon the real cost of food aid as the value of resources used to produce this food rather than the lower figure of income forgone when low value surpluses are used as food aid; secondly, they will ask whether the donor contributes more to relieving the world food shortage by food aid than by technical aid and capital grants which enable the recipients to produce their own.

Canada has not contributed much to food aid because we have not had any real surpluses; therefore the cost of donations is the full market value. It is a complex business to study rationally because the costs and benefits occur in a different way than they do in ordinary commercial trade. It is significant though that a broadly representative group such as the participants of this Conference should come up with recommendations for expanding into this area.

Sales to centrally planned countries. - The Conference recognized the importance to expanding trade of the sales of wheat to centrally planned countries which had taken place in recent years. It noted the uncertainties involved in expanding or maintaining continuity of sales with this group of countries, particularly in respect to Russia which aims to increase output to meet its domestic needs and perhaps those of Eastern European countries. The Conference wondered about the possibility of importing more from the centrally planned countries and heard the reasons why this did not occur now; the suggestion that there was discrimination against imports from these countries was refuted; in the end the meeting made no recommendations of techniques which Canada might adopt to increase that trade or to place it on a firmer basis of continuity; apparently agriculture wants to put its confidence in the Canadian Wheat Board and trusts that the buyers will somehow find the dollars.

Competitive strength. - The meeting stressed the fact that agriculture's strength in foreign markets lay in being fully competitive in terms of price; this stand was a recognition of the point that the real lever of access to foreign markets is to be able to offer a product at favourable prices compared with those of competitors.

The circumstances which enable a country to offer products at favourable prices to other countries include low-cost production and a low value of its currency relative to that of other exporters. To achieve low-cost production producers must be ahead on the technological front and manage their businesses so that the combination of factors of production in the industry is the one that gives the greatest economy in production. Technological superiority together with the best combination of resources leads to low-cost production which puts producers in a favourable position to compete in the markets of the world.

The importance of low cost and efficiency was either implicit or explicit throughout the papers which had been prepared for the Conference; a problem arose on this point because the definition which economists use for efficiency is not the same as the one which producers think that economists use. As a result there was a wariness of efficiency, not because anyone disagreed with the principle of economical production which it expressed, nor denied that low-cost production afforded the best way to enter and hold a market. But there was a feeling that inherent in the concept of efficiency and low costs was an element of exploitation; there seemed to be a fear that low costs would be achieved through paying the labour and the management in agriculture less than its real opportunity cost.

This interpretation of course is not what the science of economics means by efficiency; in the calculation of costs economic analysis assumes rates of remuneration at the level of alternative opportunities for all resources going into the production process; given this rate of return



logical analysis then leads to a combination of resources which results in the lowest cost of production.

From their experience, however, producers feel that they have reason to question the concept of efficiency; the way things have worked out it does not appear to them that increasing the efficiency of their operations through new technology assures a satisfactory rate of return for their efforts; the farm-income problem is evidence of this fact. The part that seems to be overlooked is that producers are able to control fully only one dimension of efficiency, namely, the technical one; thus they have achieved higher output per man, per acre and per animal unit. In the other dimension, which concerns the combination of resources, the optimum has not been achieved in the industry as a whole. The result is that the gross returns from sales in competitive markets often are insufficient to pay an opportunity rate of return to all factors of production. When this occurs the industry has no choice but to go even further in rearranging its resources so as to substitute those with a lower opportunity cost for those which are more expensive.

In our society the expensive resource is labour and the relatively cheaper one is capital, so the obvious substitution is capital for labour. Public policy towards agriculture, instead of taking this relationship into account, has tended to counter the industry in making these adjustments; instead of facilitating the emigration of people, Canada has encouraged immigration into agriculture which increases the competition for land and the supply of people in agriculture -- someone made the point that 30 per cent of Canadian farms were expendable. The result is that land becomes expensive and absorbs capital which could be used better for other purposes and the returns to labour tend to remain low. There is no escape from this dilemma



except to increase the rate of net emigration of people. This is a public responsibility which it is important to discharge since it is basic to achieving a strong competitive position in international trade.

This point was missed in the otherwise excellent list of recommendations to maintain agriculture in a strong competitive position. The Conference recommended greater public involvement in three areas. One was in additional outlays on research, extension and to promote good management; another was to raise the levels of education, health services and housing; the third was the marketing boards, and co-operatives might play a greater role in the effective penetration of export markets, and there was reference in the discussion to a possible role for export combines.

Protection and assistance. - The other point made by the participants in respect of supply was that some agricultural products needed protection or some form of assistance as Canada moved to freer trade. This view is understandable because there can be serious losses to producers in income and in the value of resources if an industry, accustomed to protection, is exposed suddenly to the full impact of international competition. Protection or assistance preserves the production of a commodity that is not competitive and keeps factors of production used in producing it from being transferred.

In a dynamic world an industry can become noncompetitive for a variety of reasons so it is not unreasonable to request assurance of protection against that eventuality but it should be assistance to transfer resources to another form of production. This kind of assistance is corrective and is sound for it is in the direction of placing resources where they can be paid an opportunity rate of return and compete successfully in the markets at

home and abroad. The principle of providing assistance to aid in the transfer of resources when their products become noncompetitive is one which should be more seriously considered as a part of public policy for agriculture.

I felt that the Conference did not come to grips sufficiently with this significant subject, especially since assistance of this kind has a recent precedent, having been used to help the automobile industry into a new era in international trade. It seemed to me that the tone was preservation rather than the more ultimate solution of transferring resources. For example, the dairy industry, according to its spokesmen, has to be protected if it is going to exist at its present scale, yet it would seem to use resources that could be converted with reasonable facility to beef production in which the Conference agreed that Canada could hold its own in the markets of North America where the big demand exists. This implicit assumption about the difficulties of changeover gave the proceedings an orientation towards the commodity instead of the resources which agriculture uses; this seems like the wrong emphasis because after all it is not the commodity but the returns to the factors of production which are significant to the welfare of agriculture.

The exchange rate. - A dimension of the competitive position in world trade which I feel was not given the attention it deserves concerns the exchange value of the Canadian dollar as a factor in international trade in agricultural products. Given an industry with good basic resources, along with sufficient flexibility to adopt new technology and to rearrange resources when necessary to achieve the optimum in low-cost production, then the exchange value of the dollar relative to competitors' currencies becomes the significant determinant of an industry's ability to produce.

If the exchange rate is free to fluctuate, then the higher the value of the Canadian dollar the smaller will be the gross revenue which farmers receive from any given value of sales abroad, or -- what amounts to the same thing -- if exporters price their products, the lower they will have to be priced in Canadian currency to be competitive abroad. Thus, producers of products for export have a direct interest in those factors which determine the international exchange value of the Canadian dollar. Exporters should be particularly sensitive to factors which enhance the foreign exchange value of the currency because a high value tends to restrict exports; for example, general restrictions on imports lessen the demand for foreign exchange and tend to increase the value of the Canadian dollar which in turn restricts exports because it makes Canadian products more expensive to foreign buyers. Another factor which may tend to hold the exchange rate relatively high is that a policy to hold the foreign exchange value of the currency at a high level is often adopted to curb inflation. Producers should be asking if the benefits of such a policy in controlling costs would be sufficient to offset the stimulus to the industry from the added income received from a lower exchange rate.

Young raised the question of the exchange rate and the balance of payments but the participants did not follow it up. Several of them called attention to the fact that to increase export sales Canada would have to buy more abroad in order that importers might obtain Canadian dollars, but from the point of view of general Canadian economic policy if the balance of payments is running against Canada it only worsens that situation to buy more abroad. In view of the significance of this topic it should have received more attention from the participants.

Free versus freer trade. - I make one further point at the risk of being called archaic. The support of freer trade could be called a bold stand in view of the fact that trade in agricultural products throughout the world is distorted by restrictions ranging through tariffs, export subsidies, import quotas and embargoes; therefore, if the fact of widespread protection and subsidization of agriculture had been the main evidence it would have been understandable if the Conference, accepting the dictum that a country should not exceed the rate at which the world at large removes restrictions to trade, had concluded that it would not be in the best interests of Canada to go for freer trade.

On the other hand one might ask, Why did the participants go for freer trade which implies reservations, instead of free trade which does not? In the past Canadian agriculture has fought for free trade and its welfare continues to be closely tied to external trade -- in fact much of its future growth and development is dependent upon selling more of its output abroad. The expansion of the domestic market for farm products will be limited largely to that amount created by population growth since the rising income of consumers does not have much effect on the demand for food. This increment in demand is less than agriculture's potential to produce for on the supply side the industry has many factors working in its favour; these include access to new technology, productive land, a number of good marketing, processing and input-supply industries and a corps of skilled management. It was apparent too from the background papers and the discussion that a substantial part of the output of Canadian agriculture has a significant competitive advantage with the rest of the world. Moreover free trade in livestock with the United States was seriously discussed; the

damage to our exports of flour from the export subsidies of other countries was also apparent.

The combination of a high supply potential and a low domestic demand potential, one would have thought, should have led to recommendations that Canada take a strong position on the offensive for free trade instead of the weaker one of freer trade with defensive riders attached. I suppose the answer is that the world is so far from free trade that talk of it is quite unrealistic.

Concluding note. - In conclusion I would say that the Conference covered a considerable amount of ground in two and one half days. The progress seems the greater when one takes into account the fact that there were sharp differences between the interests of the producers of the various commodities which were involved. The consensus on so wide a range of topics is even more remarkable when one recalls that a group broadly representative of processors, labour, governmental services, consumers and producers could agree to support such a set of recommendations.

The Conference produced some significant results. It voiced clear statements about the position which agriculture should take towards international trade; these should be most helpful in determining the posture which Canada assumes in trade negotiations. It produced a set of analytical papers that will make valuable reference material; they constitute a comprehensive contribution to the literature in agricultural economics.

Perhaps the most valuable contribution made by the Conference was that it brought together in a private seminar representative leaders and professionals from farm organizations, industry, labour unions, the economics

profession, governments and consumers. The availability of the background papers and the freedom from public reporting created an atmosphere conducive of learning and the free expression of opinions, and certainly led to a broadened understanding of each other's positions. I feel that everyone left wiser and more confident for the experience of taking part in the Conference; it will have a significant effect on the thinking of all of us on this important subject. I have indicated that I thought there were some gaps in the proceedings and I have dwelt on these; but no one could expect that one seminar would exhaust the subject of international trade and Canadian agriculture. When we can say that it has broadened our viewpoints and indicated gaps in knowledge where more intensive work is needed, then we can say that the Conference has been a success.



CONFERENCE PROGRAMME

BANFF, ALBERTA, JANUARY 10-12, 1966

Co-Chairmen

John J. Deutsch  
Louis Couillard  
Economic Council of Canada

J. Robert Weir  
Agricultural Economics Research  
Council of Canada

MONDAY, JANUARY 10th

MORNING

OPENING REMARKS - John J. Deutsch, Economic Council of Canada

Paper No. 1. "Agriculture and International Trade: Principles and Realities" by John H. Young

Paper No. 2. "World Agricultural Production and Trade" by Frank Shefrin

Paper No. 3. "The Relative Position of Canadian Agriculture in World Trade", by Gordon A. MacEachern and David L. MacFarlane

DISCUSSION

CONFERENCE LUNCHEON - Address by James W. Clarke, Agricultural Economics Research Council of Canada

AFTERNOON

Paper No. 4. "Commercial Policies and Techniques" by Jean Royer

Paper No. 5. "Techniques for the Expansion of Agricultural Exports: Non-Commercial Arrangements" by Elmer L. Menzie

Paper No. 6. "The Relation of Domestic Agricultural Policy to International Trade" by John E. Floyd

DISCUSSION

EVENING

SESSIONS ON INDIVIDUAL PAPERS

Chairman

Papers Nos. 1 and 2

E. Mercier

Paper No. 3

A. P. Gleave

Paper No. 4

S. Sinclair

TUESDAY, JANUARY 11th

MORNING

Paper No. 7. "Changes in Agricultural Productivity in the Soviet Union" by Arcadius Kahan

DISCUSSION

Paper No. 8. "Alternatives and Opportunities for Canada in International Products" by D. R. Campbell

DISCUSSION

AFTERNOON

GENERAL DISCUSSION

EVENING

SESSIONS ON INDIVIDUAL PAPERS

Chairman

Paper No. 5

S. C. Hudson

Paper No. 6

C. W. Gibbings

Paper No. 7

R. L. Kristjanson

Paper No. 8

H. E. English

WEDNESDAY, JANUARY 12th

MORNING

DISCUSSION OF CONFERENCE STATEMENT

CLOSING REMARKS - David L. Kirk, Economic Council of Canada

Rapporteurs

J. A. Dawson

L. Auer

Economic Council of Canada

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