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THE ROLE OF MARKET DEVELOPMENT IN THE FURTHER UTILIZATION OF AGRICULTURAL RESOURCES

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BROADLY speaking, the word market in my title may be used in two quite different ways. It may refer to the capacity of an economy to absorb the products of agriculture. Adam Smith apparently had this meaning in mind when he said that 'the division of labour is limited by the extent of the market'. The relevant economy under certain circumstances may be a small market area; in others it may be the world. Or the word market may apply to the operational pattern that has evolved to perform the multiplicity of jobs between producer and consumer. The word market is used in many other ways, but these two meanings seem relevant to the context.

For clarity I shall refer to the first as the *economic market* and to the second as the *operational market*. I do not need to do more than note that there is not one economic market, but a great number. There are thousands of individual commodities and also thousands of segments of different economies which may constitute market areas. In the broadest sense the extent of the economic market depends on productivity. Goods cannot be absorbed for long by an economy unless it has the means of payment. And means of payment fundamentally involve production. We often hear it said that the standard of living of this or that area is too low for it to be a good market. What is really meant is that it produces too little for it to be able to buy what the speaker thinks it needs. An important factor in the excellent markets which have developed since 1945 has been the very great increase in productivity in many parts of the world which has created the means of payment for other goods. So the two parts of my topic are tied together. An area has no good reason to develop its resources unless it can develop satisfactory markets for its products. And as it develops its own productivity, it in turn becomes a better market for the products of other areas.

So the conditions of dynamic growth are fundamental to market development. In a static economy there can be a great deal of trade reflecting natural or developed differences in the resources of different areas. But such trade would not be developing. What are the factors that cause growth in markets for the products of agriculture? The first and most obvious is population. This will be discussed at this Conference, and I shall not discuss it further. The evidence seems clear that population is now rapidly increasing. This creates new market opportunities. The second is income. Aside from fictitious increases due to inflation, this means production—output, goods, &c. Again this is too broad a factor for me to discuss except as it may be affected by changes in economic or operational markets.

Three other factors must be considered in the growth of economic markets aside from population and production (income). First are changes in tastes and preferences. In a dynamic economy like that of the U.S.A., these are very important. Our cosmopolitan population has brought to this country the customary foods of many lands. In many cases the populations of various racial groups are large enough to make possible the development of special industries to supply these groups, and these industries often expand their sales efforts into the general market. Examples are macaroni and spaghetti (Italian), the various chili dishes (Mexican), and a variety of foreign types of cheese. There are many others; the list would be long.

Moreover, technology is being increasingly applied to new foods and new methods of distribution. Conspicuous examples are fresh vegetables from remote areas; frozen fruits, vegetables, and fish; oleomargarine; homogenized vegetable oil shortenings; specially prepared flours; detergents to replace soap; &c. Even as old a food as milk has been improved by sanitation, pasteurization, and homogenization so that it is an essentially different product from that of only a few years ago. The production, distribution, and promotion of these and many other new and altered foods have made necessary huge capital expenditures and current outlays. So changes in tastes and habits must be considered a factor in market development.

This trend toward diversity and new products may lead to real economies as it makes fuller use of the great variety of raw materials which we may produce or import, as it increases the use of cheaper raw materials (vegetable oils, for example), or as it provides a higher level of use for by-products or cheaper materials. The finding of uses for skim-milk—in either liquid or dried forms—would open up a large reservoir of raw material for human nutrition. For many years we have used 97 per cent. of the fat solids in milk in the United States; but in spite of the increased use of fluid milk, cheese, concentrated milk, &c., we use for human food only about 70 per cent. of the non-fat solids.

The development of cheaper raw materials may play an important role in improving human nutrition on an international basis. The rise of vegetable oils is a spectacular example. Other opportunities lie in a more complete use of the non-fat solids in milk for human food. The increasing use of milk in fluid form and of cheese is an example of what is being done. The world needs more animal proteins; meat is scarce. The continued diversion of these non-fat solids from feeding animals to people will be a partial solution. A careful analysis might uncover other low-cost materials that could be developed for human use.

For those of you who have not been in the United States before, to get the picture concerning food diversity more clearly, go into a modern self-service super-market and note the huge variety of foods that technology, market organization and promotion have made available to the American consumer. One might assume that as old a business as foods would be static, but on the contrary it is now highly dynamic. One may argue that all of this will not greatly increase over-all use of food. This may be correct, but it is quite irrelevant if one is interested in supplying a particular segment of the market, as are most producers. A fisherman wants to sell fish, and a dairyman wants to sell milk.

Another factor in the economic market for a commodity is the complete development of distribution systems that will reach every potential consumer. The market for frozen foods cannot be fully developed until every consumer has a chance to buy them in a retail food store. Since this requires refrigeration throughout the marketing process—transporting, in wholesale storage, and in retail stores—needed equipment must be installed all the way from producer to consumer. A recent survey made of independent food stores (those not part of a chain) indicated that 98·8 per cent. of them handled frozen foods.[1] Provision of the needed equipment generated a very large amount of business in the supplier industries. It should also be noted that to make this use of frozen foods possible there must be parallel developments in home refrigeration.

Foreign countries that wish to extend their markets in the U.S.A. must recognize this principle. It is not enough to get their goods into the specialty shops in a few big cities. I find excellent Norwegian herrings in food stores everywhere. The Norwegians apparently understand the principle. One has to hunt for particular places in which to buy Scotch marmalade, but of course one can find Scotch whisky sold everywhere. Apparently the profits to its makers do not

[1] *Chicago Tribune*, Apr. 14, 1952.

justify the building up of a generalized market for Scotch marmalade in the U.S.A.

The problem is, of course, different for industrial raw materials. There only the potential manufacturing users need to be reached. But, to develop the potential of any economic market, an adequate market organization must be developed. This does not necessarily mean a new organization; in any commercially developed country it means making adequate commercial connexions with existing trade organizations: selling agents, brokers, wholesalers, retailers, &c.

Finally, if the market potential for any commodity is to be reached, it must be properly priced. In most countries, and certainly in the U.S.A., any common foodstuff must be sold in the mass market where people are distinctly price conscious. If you want to see an 'economic man' in action, watch any woman when she buys the family food. There are certain luxury items where this rule does not hold, but they are of trifling importance.

There is much nonsense written about the power of big business firms—monopoly, oligopoly, or what-not—to price their goods arbitrarily. But every food, textile, or clothing manufacturer or merchant, big or little, in the U.S.A. knows that he must keep his prices competitive—not only with other sellers, but with every other competitor for the consumer's dollar. I assume that this is true in the great bulk of the world's food markets outside the communist lands, because price controls, subsidies, and rationing have steadily been reduced in scope. And, even where such practices continue, there are always large opportunities for consumer choice alongside the controlled markets.

This same principle holds for raw materials even more strongly than for consumer goods. Business men everywhere have sharp pencils and keen brains, and they figure their costs closely. Take jute, one of the big dollar-earners of the sterling area. During the inflation period from which the world has been emerging during the past eighteen months, jute became very expensive. We do not need to examine the peculiar circumstances that caused it. But as a result American users of burlap turned to cheaper and more readily available substitutes—cotton and multiple-walled paper bags. If jute is to regain its place in this market, it must obviously become competitive in price.

One general observation may be made about raw materials: natural monopolies are more difficult to maintain now than they have been in the past. This is the fundamental result of applied science: witness natural rubber and synthetic rubber, silk and nylon, jute and paper, animal and vegetable fats, and oils and detergents—to mention only a few of the more spectacular cases.

So economic markets are determined by population and productivity (income), and they are affected by changes in tastes, by the adequacy of distribution systems, and by correct pricing.

Markets are essential to economic growth, and economic growth creates markets. Why does not everyone, every community, every country, every natural area, produce all it can use of all of the various goods which it can afford and which its productivity permits it to buy? The simple answer is that resources, land, population, capital, technology, production, and market organizations are unevenly distributed both within and among countries. So some areas can more advantageously produce different goods, or produce them at less cost, than other areas. Trade, therefore, is profitable to all areas concerned. These are axioms to which everyone will agree in principle. But when the time comes to apply them, people often forget them and try to make water run uphill, economically speaking.

Take my own state of Illinois, with about 180,000 farms and about 30 million acres of land in farms. Eighty per cent. of the income of Illinois farmers comes from the sale of five products: hogs, corn, cattle, soybeans, and milk. Only one of these products—milk—is produced primarily for the local market. The other four go into the national market, and three of them involve products that go importantly into world markets.

Why do we specialize so much? Farmers and landowners would simply say that it pays to do so. But more broadly it is because there are markets for these products, and Illinois has the combination of soil, climate, population, capital, and farming knowledge which, at this time, makes this selection of products most profitable. In certain local areas other products, such as wheat, oats, eggs, and certain horticultural products, have local advantages that make them important. Other agricultural areas of this country and of other countries are even more specialized.

To trace the patterns of trade within the U.S.A. or any other country is a very difficult job. In fact, there are no good long-time statistics to use in doing so. We know that foods, feeds, and raw materials move into our north-eastern States and that manufactured goods, financial services, banking, insurance, &c., move out. To trace out these currents in detail would be a difficult job. If we should do so, we would find that they represent the balances between relative advantages and disadvantages of the various sections of our country as they have been worked out by the forces of market competition over the hundred years since railroads permitted a national distribution system to develop.

We may note that certain factors contributed to this process: a common medium of exchange—the dollar; the general absence of fundamental internal trade barriers (while there is much talk about these, they are essentially fly specks); mobility of capital and, to a lesser extent, of labour; a unified transport system; and a relatively uniform system of legal institutions.[1] That these U.S. conditions facilitate trade and specialization, everyone would agree. But the size of international trade indicates that trade develops between areas with widely differing institutional situations. It is easier to trace the pattern of international trade because it is recorded at the frontiers.

Fundamentally, foreign commerce as well as domestic trade reflects differences in resources, in degree of development of resources, and in extent of business or economic organization. For many years the trade between the U.S.A. and western Europe and the United Kingdom was based on differences which the ordinary man could recognize clearly. From the time steamships and transatlantic cables permitted broad-scale integration of the economies of the United States and the United Kingdom and continuing downward towards the end of the nineteenth century, the distribution of basic resources might be said to have been:[2]

	United States	*United Kingdom*
Ample	Land	Capital
Moderate	Labour	Labour
Scarce	Capital	Land

The natural basis for trade was for the United States to produce raw products—agricultural and mineral—to provide for the growing needs of the United Kingdom and to take back the capital needed for our development. The U.S.A. was then a developing country; as a matter of fact it still is. In this period we were importers of capital, and our unfavourable trade balance was financed by selling securities abroad.

But the situation today is more complex. We can picture a three-dimensional situation:

[1] Foreigners may not realize that there are two systems of laws in the U.S.A., national and state. Most commercial business is regulated by the laws of the forty-eight states rather than by national legislation.

[2] I am indebted for this analysis to Karl-Erik Hansson, 'A General Theory of the Systems of Multilateral Trade', *American Economics Review*, Mar. 1952. Hansson's analysis is in terms of a five-dimensional world. My triangle is for illustrative purposes.

	United States	*Western Europe*	*Some less completely developed countries*
Ample	Capital	Capital	Labour
Moderate	Land	Labour	Land
Scarce	Labour	Land	Capital

Under these conditions trade can develop naturally between the United States and the under-developed countries. Many of these countries have minerals, and many have the high labour-consuming tropical products which the United States lacks: rubber, coffee, sugar, vegetable oils, jute, &c. The United States can pay for these products with general manufactured goods, capital goods, and certain agricultural items, such as grains or food oils and fats, which these countries lack. Such products are the backbone of our imports. In my opinion the volume of such imports will continue to grow. A similar trade can naturally develop between these countries and Europe.

But what do Europe and the United States naturally trade? The balance of factors in the United States leaves it with surpluses of wheat, feed grains, fats, and rice, which can be produced with high machine and low labour inputs. But it also has surpluses of two agricultural products that require high labour inputs: cotton and tobacco. These are something of an anomaly in view of our basic resource pattern. They reflect agricultural areas where the ratios of labour to land are higher than elsewhere in the United States. It should be noted also that cotton is becoming increasingly mechanized.

But what does Europe have to sell in order to earn the means of payment? Between capital-abundant countries there is always trade in machines and machine parts as one country develops special leads over another in particular items. So some machinery will flow west across the Atlantic. As a current example the United Kingdom now leads in the production of jet-powered commercial aeroplanes. I suspect that the U.S. will find it desirable to buy some of these machines. Then there are the labour-heavy forms of manufactured goods, particularly those involving high workmanship, and also small amounts of specialty foods—whisky, wines, cheeses, &c. In addition, Europe can earn large sums from tourists, shipping, and other indirect sources of income.

After all is said and done, a trading system involving these three areas will have to be triangular, with Europe earning dollars by selling goods to and performing services for the under-developed countries which have favourable balances with the United States.

The supply of capital items for such countries is the heart of this process of capital development which we have been discussing here. Real investment must take the form of capital goods from the capital-producing countries.

This is meant to be only an illustration. If the whole world were brought into the picture, the system would be even more complex. So far as the communist countries have surplus products which the Western world needs, they should be worked into the system. Again, possibilities in this connexion fundamentally depend on the productivity of the communist countries. It is more than likely that the outside world will have products with which to pay for any such surpluses.

If Europe is to find markets to earn its food and raw material requirements, it must develop markets in the under-developed countries in addition to what it can sell in the United States, Canada, Australia, New Zealand, and other more advanced countries that have either adequate or ample supplies of land and relative shortages of labour.

However all of this is finally worked out, it is obvious that, with such fundamental differences in resources, maintaining or increasing the world's living standards will require continued or expanded trade at a high level. Constant attention must be given to economic markets. Also, it is clear that the developing countries will find that it pays to put major emphasis on producing and selling the types of things for which they have the greatest advantages so that they can use their resources most productively and most cheaply earn the capital which they need for their internal development. These may be minerals, crude foodstuffs, or other industrial raw materials.

Many of these less-developed countries are, of course, short of food, and the ratio between consumption and production of food in them must approach unity. Unity in this ratio would mean that any increase in food would be consumed within the country. And better diets would make their people stronger and more productive. So food production for home use requires attention.

But any increase of their capital except by borrowing must come out of a balance of output that is not consumed internally. Such a balance is most likely to emerge if adequate attention is given to both food crops for domestic consumption and either industrial or food crops for export. The best solution is to increase both internal consumption and export, which means better technology; use of more capital, which might be fertilizers; and better organization, under which many things can be included—among them better tenure and tax systems. The aim should be on production and not on reform *per se*, even though real reform may be vital to increasing output.

There is too much talk about universal industrialization. If a country has real advantages in some raw material, such as petroleum in Venezuela or Iraq, coffee in Brazil or Columbia, sugar in Cuba, jute in Pakistan, or wool in Australia, it will find it advantageous to keep these things clearly to the front and not let general industrialization get in the way of these specialized industries. The United States is an industrial country, but we still find it desirable to raise wheat, corn, cotton, and tobacco for export. It is obvious that raw material industries have been profitable in the years since the war, and in my opinion they will continue to do well if a high level of international productivity is maintained. One of the most fundamental mistakes made in the post-war periods was to assume that basic crops and raw materials were not profitable things to produce. This was apparently based on expectation of the resumption of the pre-war situation. As a matter of fact the producers of basic farm products in many parts of the world, including the U.S.A., have been among our most prosperous groups in the post-war years. Why shy away from basic products when they are profitable?

The pattern of industrialization should be fitted to the circumstances of each country. Some industries are better adapted to developing countries than are others. As technology develops, there will always be types of industry that can best be carried on in the technically advanced countries. World trade in cotton textiles may have declined steadily since 1914 as more countries have entered this industry, but world trade in tractors, diesel engines, and power plants has not.

The development of agriculture creates the need for substantial parallel industrial growth. Added supplies are needed: fertilizers, better seeds, hand tools, better machines, water pumps, &c. Transportation must usually be improved. The processing of food and other raw products develops. Trade expands. As output and income increase, demands for consumer goods increase. The shortest road to general well-balanced industrial growth may very well be intelligent agricultural development. Some countries have made the fundamental error of trying to industrialize in the wrong way.

It may be argued that a system of world trade based on high imports of metals, tropical products, &c., by the United States and other industrial countries will be subject to the cyclical fluctuations in these countries. Such fluctuations have been a characteristic of our economy for many years, as they have been in all industrial countries. And the conformance of variations in imports to cyclical activity in the United States is 100 per cent. We import more in good times and less in bad.

I, for one, do not believe that we have found the answer to such fluctuations. As long as people will overbuy in good times and business men overstock or overbuild in order to keep up with the demands of their customers, there will be periods of relapse. There is a natural tendency to build up debts in good times and to liquidate them in bad times. These ups and downs we call cycles. That they are not peculiar to the United States is indicated by the general boom and recession in textiles in all parts of the world over the last two years.

A system marked by cycles must accumulate financial reserves to absorb shocks. Squirrels accumulate reserves of food for the winter, and people ought to be as bright as squirrels. I know of no industry that is better adjusted to withstanding the shocks imposed by cyclical declines than is agriculture as it is organized in most parts of the world, with its flexible labour costs, its lack of out-of-pocket costs for shelter and often for much of its food, and its assets distributed over millions of independent business units—family or peasant farms. To stay out of an economic system because there will be ups and downs is something which agriculture has never done. There have always been variations in crops and fluctuations in prices. The farming industry makes money when times are right, and it rides out the storm when they are bad. At least this has been the history of American agriculture over the last 150 years.

It has been argued that an economy can protect itself from external influences by some sort of flexible currency. But this idea is not so popular as it was a generation or even a decade ago. Too many people have been injured and are still being injured by the various inflations that have accompanied some of the efforts at currency flexibility. An interesting phenomenon of the last few years has been the re-emergence of the use of the orthodox principles of finance in many parts of the world. It is fair to state that specific controls—price fixing, &c.—have been losing out in favour of the monetary discipline imposed by a return to more orthodox monetary and credit principles. This has been the case to a degree in the U.S.A. The record of this country in this respect is nothing to brag about. Some other countries represented in this room have done a better job in view of their circumstances.

Now I do not favour excessive economic fluctuations, but I do not see yet where anybody has come forward with any real workable suggestions for preventing some variations in the level of economic activity. And I am not insane enough to look even tolerantly on such catastrophic breaks in the economy as occurred in the early 1930's. Only a lunatic could do so. But this was more than a cyclical downswing. It was the result of a number of structural changes in the world's economy, resulting from World War I, to which adaptation had not been made.

In the United States there is a change in attitude in every group of our population that will cause us to adopt a more defensive attitude towards such a break, should it ever occur again, than was the case in the 1920's or 1930's. Also, we have developed certain built-in features in our over-all economy that will tend to moderate the effects of such shocks. If I anticipated a repetition of such a break as occurred in the 1930's, I would immediately turn my own farming assets into cash.

So the likelihood of continued cycles in business activity does not seem to me a valid reason for opposing a system of reciprocal trade on both a national and an international basis.

What sorts of factors will favour the development of such a market system? I shall mention only a few:

1. In each country a sound monetary unit, convertible into other moneys as rapidly as is practicable. Slow progress is being made in this direction.
2. The least restrictions on trade that the peoples of the various countries can be induced to accept. There is no use in being too idealistic on this point. American dairymen will not give up the import duty on butter, but they ought not to be protected by an embargo. Nor will the Belgian peasant give up his duty on butter, nor the European farmers the various devices used for the protection of sugar-beets. In this area progress will be slow, but we should not give up the battle.
3. As few restrictions on internal price movements as the people of a country will accept. In this area much progress has been made to get out from under the onerous load of restrictions which grew up during the depression and the war.
4. Governmental action against the growth of monopolistic tendencies among business men or farmers or working men on either a national or an international basis. There is probably a natural tendency to create monopoly, and Governments should fight this tendency rather than condone it. It should be noted

that government monopolies can be as bad as, or worse than, private ones, and their development should be resisted with vigour.

5. An intensive effort, both on a national and, where practical, on an international basis, to foster a higher level of general and technical education so that the world's resources can be used more intelligently. Education has other purposes, of course, but I am limiting my comments to its impact on my topic.
6. Development in every country of a capably manned central bank to operate in the interest of maintaining stability, working against both the excessive use of credit in speculation and uneconomic development and the shortages of currency and credit which are the roots of destructive panics. Such a bank must be allowed to operate without undue political pressure.
7. Recognition of the fact that only by the wise development of the resources with which a country or a community is endowed, by the production of efficiently produced saleable products and by the purchase of other goods can we reach the level of productivity (income) which our resources and our organizing ability permit.

In a world system based on supplying reciprocal needs we must all produce efficiently. We must buy if we are to sell. And over a period of time, the terms of trade must be fair to all parties. Otherwise the system will break down—to the general disadvantage of all.

How can the terms of trade be maintained on a fair basis? The word 'fair' is a tricky one, as it has an ethical basis. In the economic world prices have powerful functions to perform. As I said in my paper at the 1947 meeting of the Conference: The pricing mechanism should (i) develop prices which reflect to producers the basic demands of consumers as to kind, quantity, and quality of goods and so guide production; (ii) reflect prices which will move existing and forthcoming supplies into consumption; (iii) provide a price structure that maintains economically justified stocks both within and between marketing seasons; (iv) treat all parties alike; (v) reflect the quality differences recognized by the trade and consumers; and (vi) do all these things economically and efficiently.

Can a system that meets these tests provide for fair terms of trade? Under a system of balanced development and a sound monetary, credit, and banking system, I would argue in the affirmative. Production must be developed with an eye both to the market and to economy and efficiency. Adequate operational markets must be developed and permitted to function. These must have sufficient flexibility and capacity for adjustment in the system to absorb any temporary lack of balance that is certain to develop at spots in the real world. Adequate systems of money and credit must be allowed to function. Excessive debts must not be allowed to pile up.

In an expanding world the emphasis must be on production. Income and standards of living both depend on this. Adequate supplies must take priority over preoccupation with the distribution of the proceeds. The rising demands for better living and for more security will see to it that there is widespread distribution of the goods and services. But these things cannot be distributed unless they are produced. Economists should always keep in mind the fact that their science deals with the problems created by scarcity in relation to needs, wants, and demands. And so problems of production should have a central place in their thought, and production should be guided by the market or it will fail to meet the judgements of consumers in whose interests the system is intended to operate.

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Dr. Norton's paper deals with one of the basic aspects of economic rehabilitation and development, namely, a more complete utilization of agricultural resources through market development.

In our economic thinking we have tended to let marketing play the role of a laggard. It is comforting, however, to realize that, at a time when determined efforts are being made to develop principles and theories and to devise practical solutions to the problems of economic development and integration, economists and policy makers are fully aware of the importance of adequate markets. Dr. Norton, fortunately, is not alone in his endeavour to emphasize the importance of sound market structures and development. In development projects under way in Canada, the United States of America and other countries, and in those projects sponsored by, or conducted with the assistance of the United Nations Organization and various foreign aid programmes, the existence, establishment, or expansion of market facilities are matters which are given due consideration.

The benefit-cost analysis techniques used in the appraisal of the economic feasibility of a development project offer good examples of the care given to the estimation of potential consumer demand and of the probable impact of the contemplated project on the market situation.

The development of agricultural resources is a worthy objective but it is not undertaken simply for the sake of development. In planning projects which relate to increased production or to a wider and more intensive utilization of resources, one must always bear in mind that production is undertaken in order to satisfy a market. This market is made up of consumers with a wide variety of wants. And, today, so many consumers' wants are left unsatisfied that producers are not so much concerned with an increase in the number of consumers as with an increase in the number of consumers whose incomes will allow them to purchase the products that are, or could be, placed on the market at prices sufficiently remunerative to producers, processors, and distributors.

As Dr. Norton has so effectively pointed out, an abundance of capital is required not only to intensify production but to make the results of productive efforts available to all existing and potential consumers or purchasers. An adequate consumer income, in turn, will help to maintain, intensify, and accelerate activities in the sphere of production. Capital formation, in other words, must be of such a character and magnitude as to encourage consumption as well as investment. Higher consumer incomes will enable the buyers of farm products to display a greater degree of freedom on the market with regard to their tastes and preferences, to improve these tastes and preferences, and to make full use of their ingenuity in creating new wants. Technological developments will thus be applied to a wider number of new foods and other farm products, and will result in more efficient and economical methods of distribution. 'Stagnation' economists may find themselves relegated to a limbo of disfavour but their loss in prestige may well prove to be an appreciable gain for the economy as a whole—to be expressed in higher levels of living over wider areas of the map. Higher incomes and higher levels of living will mean more discrimination on the part of consumers with regard to the quality and price of goods offered for sale. This intelligent consumer behaviour will tend to act as a preventive against the erection of tariff barriers and other impediments to free trade.

Dr. Norton has said that in many of the less developed countries 'the ratio between consumption and production of food . . . must approach unity'. It may be that he has statistical information to support the validity of that statement. On the surface, however, it would appear that he does not give enough emphasis to the principle of comparative advantage. A consumption-production ratio of unity represents an attempt at self-sufficiency which history has proved to be detrimental to the best interests of national producers and consumers and disruptive of the smooth flow of international trade.

Dr. Norton pays a well-deserved tribute to what he calls 'the fundamental result of applied science'. Scientific developments have rendered more difficult the maintenance of natural monopolies. One may also add that exchange of technical *know-how* and other types of knowledge within and between nations will greatly contribute to more harmonious and beneficial relations within the trading world. This, may we remind ourselves, is one of the main objectives of our Conference and an objective that will make it the effective power for the general 'improvement of economic and social conditions relating to agriculture and rural life' which we all want it to become.

These remarks have been confined to generalities. Dr. Norton has done such a good job of supporting his analysis with examples of how his theories and principles can be translated into effective and practical results that any further delving into the field of detailed examples would have been superfluous. His paper constitutes a guide and a programme which production as well as marketing economists will be happy to follow.

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Dr. Ezekiel mentioned the inability of the under-developed countries to digest technical assistance, on account, I think, of the rather small number of skilled people in the Government and among the general public. In many under-developed countries there is a lack of proper understanding of the nature of their problems; that is the case, for instance, when mechanization is promoted by Governments in countries that have a very abundant labour supply. It is necessary in those countries to distinguish what are the most pressing needs, what is the proper timing for the execution of development programmes, and how to arrive at a particular goal. Furthermore, there is a lack of political stability in many of those countries and therefore well-planned programmes are sometimes discontinued—not only the programmes that are undertaken by the nations themselves but also those that are the product of foreign aid, because the support of a new Government within the country may be lacking. We can see the need for skilled people and stable Governments. I think that one of the best ways of helping the under-developed countries would be for the developed countries to put their knowledge and experience at the service of a large number of students from the less favoured nations. In that way it is reasonable to expect that when those people go back to their own countries they will better use the scarce resources at their disposal for improving local conditions. Even with political instability, if there is a large number of skilled people we can expect that some will understand the advisability of continuing the programmes already in operation.

W. J. ANDERSON, *University of British Colombia, Vancouver, Canada*

As Professor Norton has pointed out, marketing is simply a phase of the production process and as such it is subject to improvement by the usual means, namely, better technology and a more effective combination of resources used in the marketing process. Among the important technical changes has been the development at the retail level of the streamlined process of the handling of food. I refer to the super-market and the chain-store type of handling. In other words, it has really been the development or the adaptation of the assembly line process to the retail handling of foods. It has been genuinely cost-reducing and has certainly been an important development. Another point in the technological development is that of transportation improvement. This was emphasized by Professor Ashby yesterday but I think it is worth while calling attention to it in this area of improvement in marketing.

On the question of pricing which Professor Norton mentioned, I am not sure that I can be as optimistic as he is when he implied that arbitrary pricing based on monopolistic or oligopolistic principles is of very minor importance in the distortion of resource use. It is probably true that, given enough time, substitutes and new firms may eventually beat monopoly pricing but the short-run can be pretty long in some cases, and if price setting is an accepted business practice, the consequences may be quite costly to the economy. I can think of two examples: One in Vancouver where the chain stores have been refused the privilege of selling milk at 2 cents below the delivered price to the consumer. And another case in Canada is that a labour union has refused to deliver bread to stores which were willing to sell it at 2 cents below the price which had been established by the bakers. In addition there are a multiplicity of gentlemen's agreements and follow-the-leader type of product pricing. I do not think that we can pass that off as being negligible.

In the broader field of international trade Professor Norton rightfully gives trade between nations an important place in creating optimum resource use. This certainly has been an experience of the Western world. I wonder though if he does not over-emphasize the importance of trade in raising the standards of living of the now under-developed countries. Trade will certainly grow, as he points out, as these countries develop, but with the exceedingly wide gap in productivity per man that currently exists between the more developed and the less developed countries, the growth of trade between them, I expect, will be somewhat slower than Professor Norton seems to imply. On the same point he speaks of increasing trade with raw materials coming from the under-developed countries. There is an objection there in that it leaves the exporter of these raw materials much more vulnerable to the vagaries of the price system than it leaves the exporter of the secondary or finished product. I think Canadian experience along this line illustrates that. We have for the past thirty-five or forty years encouraged relatively costly secondary industries, mostly to give diversity so as to leave the economy less vulnerable to the wide swings that occur in the prices of raw materials. Perhaps the same holds true for the more under-developed countries, and that relatively costly industrialization can be justified on that basis for these countries as they develop their resources.

A. STARC, *Federal Board of Planning, Belgrade, Yugoslavia*

I should like to say a word on this question of planning agricultural programmes in the light of my country's experiences since we were subjected to foreign occupation.

Our economy is mainly agricultural and we have a dense agricultural population. Most of our farms are small, though we have both private peasant ownerships and corporative farms based on Russian principles which latter have not turned out very well. Our opportunities for using modern mechanized methods are limited, yet our existence depends upon agricultural progress. Fortunately the efficiency of our farm labour is tending to improve and the breeding of more and better livestock is doing much to help our agriculture to increase its productive capacity. With the use of fertilisers some of our yields are already doubled, though we are only at the beginning of the upward trend. Our plans for industry are expected to increase the national income by some 6 per cent. a year, though our industries, like our agriculture, will be old-fashioned for some years to come.

It is a pity perhaps that this progress has only been possible by the application of administrative controls. It has been necessary to insist upon the obligatory delivery of crops to the State and so on. Only in this way has it been possible for the urban population to be fed. But the system has its drawbacks, and it has been relaxed since the economy became more stabilized. The programme has been a compromise between management by the central Government on the one hand, and increasing influence of the people's councils on the other. The central body decides on the plan in outline, taking into account the increases which should be achieved given the better utilization of available resources, the better maintenance of fertility, the better integration of crop and livestock production, the education of agricultural personnel, and the extension of research. But it is for the local authorities, the corporative organizations, and the producers, to discuss the plan and adapt it to local conditions.

The overriding problem at present is the question of long-term credit, namely whether we shall be able to carry out the programme with our own funds, or whether we shall need the help of more highly developed countries. The comment has been made that in Yugoslavia we spend more than 20 per cent. of our national income on the armed forces. That is due to the international situation, and it does not mean that we neglect any part of our economy; in fact we aim at developing the whole of it, including agriculture. In any case, the international organizations which are assisting the less well developed countries should not only consider finance, they should pay regard to every department of a nation's life.

S. D. NEUMARK, *Economic Consultant, United Nations*

I am in full agreement with Professor Norton when he says that an area has no good reason to develop its resources unless it can develop a satisfactory market for its products. I should like to recommend this sound advice to many a production planner. However, at the end of his interesting paper he suggests that the rising demands for better living and for more security will see to it that there is widespread distribution of goods and services. This, in my opinion, does not necessarily follow in the case of under-developed countries. Widespread distribution of goods does not follow automatically even when the goods are actually produced. Marketing facilities and transportation may have to be provided either simultaneously or even before the goods are produced. Even with increasing demand the goods may not be produced unless these facilities are adequate, particularly in the case of under-developed areas. In the Gold Coast, for example, you have an area where farmers have specialized in cocoa production to the neglect of growing food crops, with a result that food has to be imported from abroad. Yet there is in the Gold Coast a potential area, a hinterland as it were, where good crops could be profitably produced for sale in the excellent markets of the cocoa-growing areas. The reason why this hinterland remains undeveloped is because it lacks transportation and marketing facilities.

Then, with regard to industrialization—a wide subject—I would like to stress that so far as agricultural countries are concerned, industrialization is usually discussed from the aspect of providing employment for people off the land. While I have no quarrel with that approach, I should like to point out that the industries so developed, unless, of course, the articles manufactured are intended for export to other countries, would have to depend on the purchasing power of the agricultural population. It therefore seems that improvement of the agricultural industry itself is a first prerequisite of industrialization in such countries.

K. Brandt, *Food Research Institute, Stanford University, California, U.S.A.*

I do not want either to criticize or to comment but to throw into the discussion a point that has so far not been touched upon. It concerns the strategy of how to get the proper leverage for faster development in less developed countries. The stereotyped lament about a political situation where there is a caste of wealthy *estancieros, hacendados*, or large-estate owner-operators does not impress me as the constructive approach to progress or as the only approach to it. In some South American countries there are self-managing large-estate owners—not absentee owners—who in those countries are the only possessors of modern farm technology to which the other farmers should also have access. I think this situation offers a wonderful opportunity for the employment of this indigenous capacity, usually possessed by men who are prominent and patriotic citizens. If their Government, if the President of their country were to appeal to their public spirit and call them into service as the first agricultural extension agents, they would not refuse to serve. Often the well-managed *estancias* are inaccessible to the farmers in the surrounding neighbourhood. Open invitations to farm demonstrations and discussions at those *estancias* would have an extraordinary appeal. Besides that, one could contract with successful operators in strategically located areas for demonstrations of special practices and crop cultivations. After all, it is simpler and more convincing to have these men, who are not only informed but also capable, actually performing this work than to try to have other extension officers trying to talk farmers into accepting new practices.

But if you choose the other approach, that is the call for political reform first, the only course open is to wait for an eventual revolution and, as we know, some of these revolutions do not turn out exactly the way we would prefer. Therefore it seems to me that effecting improvements in the human relations between the efficient wealthy operators and the inefficient poor on the land would provide a practical basis for development, and this applies to the development of production as well as to the development of marketing.

M. Ezekiel, *Economics Division, F.A.O., Rome, Italy*

Dr. Norton's discussion on the economic factors underlying international trade between developed and under-developed countries throws an exceedingly interesting sidelight on one of the most serious political problems in securing the kind of economic development we have all been talking about. If we are to have adequate economic development of the under-developed countries of the world, somehow the United States must be persuaded to put up a substantial share of the capital funds. Now, if you can follow through Dr. Norton's argument, it comes to this: North America, largely the United States, has been selling large quantities of wheat, cotton, and tobacco to western Europe. It cannot continue to do so unless western Europe has the dollars to pay for them. There is very little likelihood of western Europe earning those dollars from North America. Europe can earn them from the products it sells to the under-developed countries and from the funds the under-developed countries get from the sale of their raw materials to North America, if that trade is expanded sufficiently. So there is an excellent basis for saying to American farmers: 'If you want to keep your farm market, support the development of the under-developed countries and the use of American funds for that purpose, and in that way you can help to make sure that Europe will continue to have the money to buy your products without your having to keep on giving Europe much of the money to buy them with, as you have been doing since the war.' So, I simply point out certain political or public-relation implications of the economic facts so logically set out in Dr. Norton's statement.

L. J. Norton (*in reply*)

The amount of criticism has been surprisingly small. It is a new experience for me and I have not quite recovered from the shock of it. On Mr. Boucher's point, where I said that the elasticity of the consumption–production ratio of foodstuffs in some under-developed countries would probably be one, I did not spell this out in my effort to abbreviate the paper. What I meant was that if in a country like, let us say, India where food is below basic requirements, they increase food for human consumption it will all be eaten. And if they confine themselves to this sort of activity, however desirable, they will not produce the things that they may need to sell in order to acquire capital from abroad, which also may be highly desirable. They ought to do both.

Now, Dr. Anderson mentioned super-markets. I did not mention these in my paper. They provide an excellent illustration of a function which large-scale marketing organizations have always performed, namely, to develop sources of supply. Super-markets in this country and in Canada go out and find new sources of supply because they have such a tremendous appetite for goods to sell. This has been done by many kinds of marketing agencies all over the world for generations, and it would have been a very interesting point for me to have developed in my paper. Now, I agree with Anderson that the restrictive practices he mentioned, which I think come from his own province of British Columbia, are bad. My knowledge is not too complete in this matter, but I am inclined to believe that there is a Government agency or *quasi*-Government agency mixed up in these things in some way. But this is not the point I wish to make. You can always find examples of restrictions on trade and the lack of completely free competition. Many economists stop right there and say: 'Oh! Look how terrible this thing is.' All that I am arguing is that I think these cases are the exceptions, and that in the United States, at least, the great bulk of foodstuffs are distributed essentially without important monopolistic influence, if you allow time to work out special positions.

Now, on Anderson's point about an under-developed country being afraid to develop its resources on the basis of exports because its income is now low, I simply do not get his point. If you have a resource to develop, I do not know how you are going to increase your income if you do not develop it, and I should say that his own Dominion of Canada is one of the most remarkable demonstrations in the world of a country which did this by exploiting her natural resources. She developed capital which has permitted her, as time went on, to become one of the great industrial countries of the world. Apparently she was willing to live dangerously, and it paid off. And I should add that the reason that Canadians now can afford to develop their secondary industries which he said were not so profitable is because they have these very profitable primary industries which they do not overlook. They do not hesitate to develop production of wheat, copper, nickel, or wood-pulp; these things earn profits which permit the unprofitable industries to be carried on.

On Mr. Neumark's point about the apparent contradiction between two parts of my paper, I suppose the reason was that I was emphasizing different things at different points. At the end, I was merely indicating or hinting at one of the outstanding mistakes of the post-war world: the excessive emphasis upon consumption. The worry was that people would not have enough to consume. We do not have to worry under modern political conditions of pressures being set up which will widely distribute income. Rather the danger is that we will get such an effectively wide distribution of income with such a high propensity to consume that we will have no capital savings with which to build up and maintain our capital plant. This situation, I think, applies to a number of countries in the world today.

Now, Dr. Ezekiel, in commenting on my paper, said that the United States ought to export more capital. I think the United States will export more capital. We will undoubtedly, for good and valid reasons, continue certain programmes which spread money around the world, but there are more fundamental reasons why the United States will, over the years, invest large sums of money in foreign countries. I think they are valid (speaking now as an American citizen and taxpayer, and not as an economist), although they are also economically justified. We will invest capital in foreign countries in order to procure the tremendous amounts of raw materials which the economy of this country will continue to use up in the future. We will do it in our own interests because we want supplies of these goods. A good example is what our steel corporations are now doing in Venezuela. Iron ore, or the best grades of iron ore, are becoming scarce here, and both the United States and Bethlehem Steel Companies are developing very large projects in Venezuela to acquire raw materials which were discovered in that country. And although I have never been in Venezuela, apparently the relationships between the Government of that country and these large corporations doing business down there, are sufficiently favourable to the country that it can make a good deal of economic progress out of its share of the earnings. This, I think, will be the basic reason why we will make large capital investments in other parts of the world.