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THE EFFECTIVENESS OF MARKET MECHANISM FOR ADJUSTING FARMING TO PUBLIC NEED

OPENING ADDRESS

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MY approach to this subject may be coloured by the experience of having spent much of my adult life in the study of market arrangements in a country with a deep and fundamental respect for free markets and the use of market prices to guide production and consumption. I have seen:

1. Market prices effect fundamental changes in the kind, quantity, and quality of agricultural production in response to the only channel of communication between American farmers and consumers—market prices.
2. Large stocks disappear in response to low prices and consumers adjust consumption to short supplies in response to high prices.
3. Our markets tangled up with government price supports and ceilings.

During the past year the United States swept its wheat bins empty and also shipped large quantities of other foods to feed a hungry world (see Table, p. 114). We would not have shipped these quantities if we had maintained price controls. I read about supplies going through irregular channels in countries which still maintain controls. With this background I admit a bias towards free markets as a mechanism for getting foods produced and distributed. My considered opinion is that in providing adequate food for basic human needs, a free market will operate more effectively than any programme involving planned marketing, price controls, state trading, or any of the devices which planners can conceive in efforts to plan production, distribution, and consumption. For this reason I have the utmost confidence in the final outcome of the present differences of opinion between two great nations who hold fundamentally different points of view on this question.

The pricing process is the heart of the market mechanism. What are the criteria of efficiency in this process? I tell my marketing classes that the pricing mechanism is to be judged by the following tests. It should: (1) develop prices which reflect to producers the

Estimated Food Exports from the United States, by Destination: Fiscal Year 1946–7 (preliminary)[1]

(In thousands of long tons)

Destination	Total foods	Wheat and flour (grain equiv.)[2]	Other grains (grain equiv.)[3]	Fats and oils (product weight)	Meat (carcass-weight equiv.)[4]	Dairy products[5]	Other foods[6]
Total food exports	18,433	10,520	4,538	233	224	493	2,425
Europe—Total	11,149	6,638	2,572	156	195	322	1,266
U.S. Military-civilian fdg.[7]	3,481	2,251	904	9	9	33	275
France and Fr. N. Afr.	771	312	281	44	12	41	81
Belgium	614	405	79	13	9	8	100
Netherlands	600	466	117	7[8]	1	..[9]	9
Norway	159	146	8	1	..	..	4
United Kingdom	1,652	837	125	17[8]	50	185	438
U.S.S.R.	56	..[9]	..[9]	2	40	5	9
Austria	325	198	102	10	10	..[9]	5
Italy	1,349	812	443	18	18	13	45
Poland	321	175	77	18	19	15	17
Greece	422	274	94	1	9	13	31
Czechoslovakia	151	94	24	7	12	..[9]	14
Other Europe	1,248	668	318	9	6	9	238
Far East—Total	3,508	1,916	1,250	3	15	94	230
U.S. Military-civilian fdg.	1,642	934	578	..	2	9	119
China	238	150	49	..	..[9]	19	20
Philippines	523	191	202	3	3	50	74
India	1,003	571	421	..	..[9]	7	4
Netherlands East Indies	102	70	..[9]	..	10	9	13
Latin American Republics	2,322	1,530	447	58	6	52	229
Other exports	1,454	436	269	16	8	25	700

[1] Excludes shipments to U.S. territories.

[2] Includes approximately 170,000 long tons Canadian wheat milled in bond in the U.S.

[3] Includes corn, cornmeal and grits, rice, oats and oatmeal, barley, malt, rye, and grain sorghums.

[4] Includes 31,000 long tons representing the carcass-weight equivalent of meats included in Army rations and canned-meat products which were used in civilian feeding or transferred to U.N.R.R.A. and not covered in meat allocations.

[5] Includes cheese and condensed, evaporated, and dried milk.

[6] Includes dry beans and peas, fish, eggs, sugar, poultry, potatoes, vegetables, fruits, and nuts, &c.

[7] Includes U.S.–U.K. zone of Germany and Italy and U.S. zone of Austria.

[8] Includes colonies.

[9] Less than 500 long tons.

basic demands of consumers as to kind, quantity, and quality of goods and so guide production; (2) reflect prices which will move existing and forthcoming supplies into consumption; (3) provide a price structure that maintains economically justified stocks both within and between production seasons; (4) treat all parties alike; (5) reflect the quality differences recognized by the trade and consumers; and (6) do these things economically and efficiently.

If a market mechanism meets these tests, it cannot at all times pay producers what they deem to be remunerative prices, nor can it provide consumers with goods at prices which they do not consider too high. If large stocks have to be moved prices may be cheap, temporarily even below real costs. If consumer prices are high it is mainly because consumers have the desire to buy and the purchasing power to take existing supplies off the market at these prices.

The only concept of 'public need', a phrase used in my topic, that the farmer can grasp is the willingness of consumers to buy his products. Go into an American food store and watch the women at the meat counter. They clean out the meat at prices which all parties from producer to consumer know to be very high. Consumers want meat and have the money to pay for it. This is the reason why our livestock now sells at fabulously high prices. No one—the producer, the packer, the retailer—is trying to gouge the consumer. This market is made by a strong desire for red meats backed by money in consumers' pockets.

The same thing has happened in our grain market. On my farm corn is grown for sale. Last fall and early winter I sold a considerable quantity at what I considered a good price. Yet I made a serious mistake. Foreigners entered the market and began to buy corn in considerable quantities at what my friends in the grain trade tell me were not Scotch prices, but rather at what we used to call after the First World War 'silk-shirt' prices. I know that when foreign buyers were in the market prices strengthened; when they dropped out and the market depended on the American processor demand, the market weakened. The only way in which our grain farmers could learn that foreigners had a 'public need' for corn was by being able to sell at prices that many of them considered to be high. I suspect that these were 'state purchases'. If I were an English dairyman and wanted to buy my feed 'worth the money', I would get an experienced trader and not the Government to buy it for me.

It is clear by now, I hope, that the pricing function of the marketing mechanism is the only phase of that mechanism which I consider to be relevant to my topic and that 'public need' is made known to farmers by demands in the market or reflected in prices.

I am fully aware that other interpretations of public need are possible. Undoubtedly there are many hungry people in the world. You can total up the amounts of food needed to satisfy these needs. But what anybody can do with such information I do not see. Unless somebody could devise, impose, and enforce an international rationing scheme supplies must be allocated by prices. In the United States during the war we rationed some scarce items. It worked fairly well, but with peace the actions of our people forced us to abandon it. For a time the real price of corn was measured not in dollars alone but in dollars plus, in pairs of nylon hose. I have such a schedule in my files: a most interesting document. Public opinion in America sickened of such a farce. You still ration in England. Your people are better disciplined than ours. From what I read actual markets in some European countries where controls exist are mostly 'black or grey'. So an international rationing plan can only be a mere figment of the imagination. Therefore I can grasp no interpretation of public need except that conveyed by the economic term 'demand', or what people are willing to buy at prevailing prices.

I am old-fashioned enough to believe that the best test of any economic policy is: Does a programme contribute to maximum production of things for which there is effective demand? All programmes should be subjected to this test of maximizing production of needed things. To raise the level of food consumption we must increase the level of production of food. Many technical factors are involved, but a consideration of these is not a part of my assignment. On the market side, however, a mechanism of free, open, competitive markets will, in my opinion, maximize production. Most control programmes aim at curtailing or witholding output to sustain market prices. All of these fail the test of maximizing production of goods for which an effective demand exists.

A wise home economist says four things determine what we eat: (1) what we produce; (2) what we can afford; (3) what we are taught to eat; (4) what we are sold.

There is a constant interaction between what is actually produced and what consumers really want. The connecting links are market prices and relative costs, which are also affected by the market prices of cost factors.

I shall give some actual examples of adjustment from American experience. Perhaps the most stable factor in the American economy is the overall production of farm products for sale or home use. The year-to-year variation is slight. But the make-up of this overall production is always changing and not static.

The two classes of farm products which increased most in output in the United States between the two wars were truck crops (green vegetables) and oil seeds. Index numbers of the production for sale and home use of truck crops (1935–9 = 100) were 32 in 1909–13 and 105 in 1938–9, a more than threefold increase. Similar indexes for oil-bearing crops were 45 in 1909–13 and 123 in 1938–9, not quite three times. Here is evidence of a dynamic rather than of a static condition in production. Many things contributed. Technical developments, such as refrigerator cars for shipment of green vegetables from distant low-cost areas, mass displays of vegetables by retailers, new factories for soy-bean processing, the discovery of proper growing and harvesting methods, and the learning of the necessary 'know-how' by growers. But behind these developments were the market demands of consumers for more green vegetables, of dairymen and stockmen for a better source of protein feed, and a response by consumers to intensive merchandising of foods containing vegetable oils. Farmers learned of these demands when a market developed for these products offering prices which made them more profitable to raise than alternative crops. Less rapidly production of other products increased between these two periods: dairy products by nearly three-fifths, poultry products by two-fifths, fruits and nuts by 80 per cent., and tobacco by slightly more than one-half. At the same time other farm products lagged: food grains (wheat and rye) increased by only 17 per cent., feed grains and hay by less than 5 per cent., the closely related meat animals by about 15 per cent., potatoes and dry beans by less than 20 per cent., and actually cotton decreased by 10 per cent. Between these two periods, 1909–13 and 1938–9, the population of the United States increased by 39 per cent.

Now it is true that in 1938–9 acreages of cotton, tobacco, wheat, and corn were somewhat held down by government acreage allotments. This contributed to the rapid increase in acreages of the oil-seed crops, particularly soy-beans. The basic reason why acreages of these crops were under control was to bolster up a weak price-position. This was a period of low world prices for basic commodities, and the following particular circumstances weakened prices of the commodities which had only modest increases in output between 1909–13 and 1938–9: wheat—reduced exports and domestic consumption because of changing food habits; cotton—reduced exports and competition from synthetic fibres; feed grains and hay—

mechanization and the consequent decline in demands for feeding work-stock; potatoes and beans—changing dietary habits; meat animals—declines in pork and lard exports. Prices were also affected by reduced real costs in producing corn and wheat consequent on mechanization and the adoption of higher-yielding hybrid varieties of corn. This was an added reason why acreage restrictions were imposed on these two crops.

I do not hold that public policy played no part in American price levels; cotton, wheat, and corn prices in 1938–9 were supported by government loans, but outputs of these products lagged rather than increased; prices of other products were higher than they would otherwise have been because of import duties, excise taxes on use of imported products (vegetable oils), and other similar factors; but, except for the government loans, these did not interfere with the operation in normal fashion of our internal markets.

As further evidence that market prices will bring fundamental agricultural adjustments to public needs, I submit the response in our war-time production. Comparing 1943 with 1938–9, meat animals and poultry products were up about 45 per cent.; dairy products, up only 11 per cent. (an example of short-run inelasticity); oil-bearing crops, up 160 per cent.; while food grains—of which, in the war years, we had large stocks—were up only 3 per cent.; cotton, down 3 per cent.; tobacco, down 13 per cent. The increase came in products in greatest need for meeting military and lend-lease demands. The stimulus was relatively high prices reinforced by promises of support prices and actual subsidies for the oil seeds and later on for dairy products.

Market prices will adjust production in line with needs as expressed in market prices, if time is allowed for the lag essential in agricultural processes. The most fundamental change in the agriculture of our corn belt between 1909 and 1939 was a decline in the importance of feed grains and an increase in soy-beans. To effect this small-scale combines had to be developed, thousands of farmers had to learn how to raise a new crop, large industrial plants had to be built. To do these things requires time.

My first test of the pricing functions of a market was: to price goods so as to reflect the basic demands of consumers (as expressed in market price) as to kind, quantity, and quality, and thus guide production. I have shown that very broad changes have occurred in the production pattern of farm commodities in the United States in response to changes in market prices and relative costs. Right now the market tells our farmers to emphasize production and sale of grain and to curtail the use of grain as feed. We are harvesting our largest wheat crop—good weather was partially responsible but the acreage was also up; high prices for feed grains are curtailing long feeding of cattle and slowing up expansion in hog production. Consumers' needs, as reflected in high grain prices, are operating to increase production and sale of cereals.

My second test was that a marketing mechanism should move existing and forthcoming supplies into consumption. This works two ways: lower prices to expand consumption; higher prices to hold consumption down to the level of actual supply. The latter is illustrated now by the high current level of meat prices in the United States. In the absence of formal rationing there is no other way to distribute a supply which is below the level of effective demand.

An illustration of how lower prices operate to expand consumption is the behaviour of the prices of certain horticultural speciality products which have been low in the United States during the past few months. We harvested a big crop of citrus fruit; the canners carried over large supplies of canned citrus juices; prices broke; the mass-display merchants piled up the canned juice for sale at low prices; people bought it by the case where they had previously bought it by the can. The frozen-fruit people have been faced by a similar situation and certain varieties have recently been sold at very low prices. People bought more and used it.

You may say, here was a misjudgement on the part of the market agencies in accumulating such large stocks of these materials. You would be correct. But mistakes are made—both by government and private trade—and, when they are made, the test of the market is whether it will price the commodities so as to move them. I could cite the case of a U.S. Government corporation which brought Japanese silk into the United States in a volume which could not be sold at the offered prices. I could cite the current rubber situation. In that one the British Government, if I understand it correctly, got out from under a fixed price. These government deals illustrate a point which farmers need to bear in mind. It is easy to support prices on a bull market but difficult to do so on a bear market. Only a very rich government can afford to stay with expensive price-support operations on the latter.

My third test was that the market mechanism should carry stocks that can be economically justified both between and within seasons. I shall draw my illustrations from our greatest American crop—corn, or, as you call it, maize. Corn is typically stored on the farm because it can be held there more cheaply than in market channels. To induce storage the market price must rise enough during the storage season to cover costs as farmers calculate them. On the average in the marketing season of the 1920–37 crops, the price of corn increased by 11 cents a bushel between November and the following August. The state of Illinois is the largest source of commercial corn. In the three years 1927–8 to 1929–30—before any government storage plan operated—Illinois farmers disposed of (fed or sold) corn as follows: In the first quarter after harvest, 37 per cent.; in the second quarter, 28 per cent.; in the third quarter, 17 per cent.; in the fourth quarter, 14 per cent.; and carried over, 4 per cent. Thus the market operated to cause farmers to hold about 30 per cent. of their crop and carry-over for sale or feeding in the last six months of the marketing season. Bear in mind that the heavy period of farm use is in the winter for feeding hogs and cattle. In addition the market agencies accumulated corn during the winter and sold it out during the summer. When we had flat-price ceilings farmers sold corn early, and twice the Government had to step in during the latter part of the year to allocate supplies between various classes of users.

The chief point of theoretical criticism concerning corn storage has been that the market did not provide for large enough carryovers from one year to the next. The 'ever-normal granary' plan, before it degenerated into a price-support scheme, was intended to encourage such carryovers. Here are some figures as to actual carryovers:

	U.S. crop of corn for grain (millions of bushels)	*Carryover at end of year*	*Percentage carried over*
1925–6	2,382	280	11·8
1930–1	1,757	168	9·6
1932–3	2,579	387	15·0
1936–7	1,259	66	5·2
1939–40	2,342	688	29·3
1944–5	2,881	308	10·7

Thus before the Government began making loans in 1933 the markets induced farmers to carry over 10–15 per cent. of their previous corn crops. The 10 per cent. at the end of the 1930 crop-marketing year was following a short crop; the 15 per cent. at the end of the 1932 season was near the bottom of the depression with the lowest price in this century.

Government loans in a period of weak demand led to a carryover which in the peak year of 1939–40 was equal to about 30 per cent. of the previous year's crop. Loans were still offered in 1944, but the demand was strong and only about 10 per cent. was carried over.

Whether big carryovers induced by loans above market or use values are more economic than the 10–15 per cent. of the crops which was held over without such loans is a subject which would take longer time to explore than I have available. No one can conceive of carryovers large enough to guard against crop disasters like 1936, but we have had only two of these in the past fifty years. Proponents of this storing scheme argued it would smooth out the hog cycle. The wildest hog cycle we have ever had came in 1942–4 and was caused in part by these heavy Commodity Credit Corporation stocks of corn, which held down corn prices while hog prices rose rapidly.

Open market prices will not induce American farmers to carry over more than 10–15 per cent. of their corn crop. Government loans will induce larger carryovers when above market prices.

My fourth point was that the market mechanism should treat all parties alike. We have no adequate data on this point. We do not know enough about prices paid to individual farmers. Where market prices are widely published it would seem that a system of open market prices should come as near treating all farmers alike as any system will. My tenant and I were discussing the price of oats, and so we looked up the local price in a weekly paper which had just come to his home. Everybody in the community reads this paper, and so this information is available to all who are interested.

My fifth point was that the market should reflect quality differences which the trade or consumer recognizes. I suspect that in this respect the market mechanism is weaker than at other points and that improvements are needed even in countries with well-developed markets. There is too much 'hog-round' buying at country points. This is, of course, merely a local adaptation of f.a.q. prices and is a simple system of operation at country points. Dr. T. R. Hedges in a thesis he prepared for his degree at the University of Illinois found that in Oklahoma the average price paid to farmers for cotton truly reflected the points on or off middling prices in central markets for the cotton of the community but that individual farmers were not paid for the differences in the quality of their particular lots of cotton.

Much basic research needs to be done into practical methods of applying quality differentials to actual farm prices. In some cases a mechanism for moving the commodities through to consumers on a quality basis needs to be developed. We are studying the operations of some egg-grading stations and find that the ordinary Illinois eggs are of a quality which, if paid for on a graded basis, would warrant premiums of 3–5 cents over what we call 'current receipts' prices.

One of these stations, operated by a farmer who has developed a big-scale hatchery, feed, and poultry business, has found special outlets which permit him to pay premiums. A chain-store operation has done likewise. A hatcheryman who is buying eggs on grades has not found good outlets for the special grades and is experiencing difficulties. There must be a completely developed market from producer to consumer before the market can reflect to producers the quality premiums which some consumers will pay. This was the first research project we initiated in anticipation of new research funds recently authorized by our Congress for work in marketing. It illustrates our interest in this basic aspect of the market mechanism.

My sixth point was that the market should carry on the pricing process efficiently and economically. We have few objective data on this point because cost studies do not separate the respective costs of the pricing function and of the various physical functions. It certainly costs a good deal of money to maintain the communication systems involved in disseminating complete market information. Such pricing institutions as an organized grain market like the Chicago Board of Trade involve large costs. We do know, however, that when a complete organized soy-bean market was developed, the spread narrowed between the market values of the products which beans yield and the price paid to farmers for soy-beans, and the seasonal range in prices was reduced. This behaviour was in line with the theoretical views as to the effects of such markets. If the spread narrowed, the producer received a higher share of the processing value of the soy-beans.

For a commodity not adapted to open-market pricing, government intervention may reduce some of the costs involved in the bargaining process. Market milk is an example. Milk cannot be priced in an open market. We gradually evolved a system of bargaining between dealers' and producers' associations. Now and then costly strikes of producers developed which have been eliminated by government pricing orders in our interstate markets. But milk is a special case of a commodity not adapted to ordinary pricing practices; in the milk markets where these official pricing arrangements work best, milk prices are tied to those of basic manufactured products—butter and cheese, priced in organized markets with appropriate premiums for quality, location, evenness of season, of production, and other factors which make market milk more valuable than milk for manufacture.

I have endeavoured to develop some of the advantages inherent in a system of open and competitive markets. I stated at the outset that 'public need' could only be interpreted to the farmer by way of market price. I have shown that over the years our agriculture adapted itself to new demands and produced more of such things as oil seeds, green vegetables, and dairy products and relatively less of such things as starchy foods and animal feedstuffs. These changes reflected farmers' reactions to relative returns and costs as revealed to them by the market. Possibly the same thing could have been accomplished by some all-wise planners. But who would have known in 1920 that Americans were to become a nation of salad eaters? Who would have underwritten the costs of any mistakes that had been made? When I came to Illinois in 1923 a distinguished agronomist who has had much to do with the subsequent development of our great soy-bean industry asked me about its future. I did not know. And I can say truthfully that I do not know what revolutionary changes will come in our agriculture in the next quarter of a century. I do know that these will be determined by relative prices and costs. In soy-beans it took farmers like the Garwood brothers to adapt the combine to harvesting soy-beans, forward-looking businessmen like A. E. Staley to develop processing, plant breeders like Woodworth to develop adapted varieties, and food manufacturers like Wesson, Proctor & Gamble, and Lever Brothers to popularize the use of vegetable shortenings, and animal nutritionists and feed manufacturers to learn how to feed the meal advantageously and to get farmers to use it. To the average farmer all this worked out so that he saw a good market for a crop which he had learned to grow. Public agencies played a large role in the needed developmental and research work, but commercial interests developed the market.

My personal conviction is that the less the government intervenes in the market and the more it devotes its resources to basic research and education, the more likely we are to get the kinds, quantities, and qualities of products which the public wants. It will be a grave tragedy if the control measures which were spawned by the great depression of the 1930s, and which will develop again in the next depression as they have in hard times throughout history, should be used as an excuse for continuing general control measures in the period of expanding economy we now face. The same can be said of the special war-time measures. In the United States we are in the process of getting rid of such programmes and will resist strongly the restoration of any programmes to push our agriculture into any official pattern. As I said earlier, we would not have made available the huge tonnage of food to the rest of the world in 1946–7 (Table,

p. 114) if we had continued our price ceilings. The basic question was: did the world want this food at high prices or did it want controlled prices?

DISCUSSION

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I would like to congratulate Professor Norton on the very refreshing experience which he gave us in allowing the cool wind of honest *laissez-faire* optimism to blow on us in this invigorating fashion from the middle-west. I think, however, that he rather gave his own case away towards the end of his paper, because he more or less told us that when the next depression arrives most of the controls will come back again, and he also admitted that the war had necessitated a great many interventions with the free operation of market mechanisms. Depression and war are after all the two major causes for the departures which this and most or all other European countries have made from *laissez-faire.*

Some of these departures have involved unwise or ineffective attempts at control, and many of us could quote instances of ill-conceived bureaucratic interference. But there was one point in Professor Norton's paper which I did not quite follow, when he referred to the effect of government buying in the corn market in the United States. It does not seem to me remarkable that the price should rise if foreign buying is increasing, whether that buying is conducted by the government or by private individuals. And as far as this country is concerned I do not think it true to say that buying done on behalf of the Ministry of Food is done by inexpert people. Many of those by whom it is carried out bear names well known in the food trades in almost every country in the world.

In this country during the war we were faced with a very big departure from normal economic conditions. In war-time it is almost true to say that in this country the aim of agricultural production was not to maximize the output of consumer satisfaction as it was in peace-time, but to maximize the use of shipping space. If we had not strained every effort to save space, we should have interfered very seriously with the war effort. Now shipping space is not a thing that is properly reflected in market valuations. It happens, for example, that of all the foodstuffs we normally consume in this country potatoes is one in which we are most nearly self-sufficient. It also happens to be the case that potatoes are one of the most effective methods of utilizing land for saving shipping space, owing to their high output of calories per acre. But owing to the fact that we were not dependent on imports for any large proportion of the supply, the price of potatoes did not experience the immediate stimulus due to scarcity which occurred with other foodstuffs, particularly with grains, on the outbreak of war. It was thus very necessary for the Government to stimulate the production of potatoes, and to do that it had to interfere with market valuations and to take special steps to encourage production by raising their prices.

As this instance shows, however, even if a government is engaged in large-scale intervention in the operation of markets it does not follow that it is going to depart entirely from the use of price mechanisms as its instrument. A lot of the discussion that went on during the war in regard to control of food production was concerned with the question to what extent the aim could best be achieved by suitable adjustments of prices and to what extent it was desirable to use other methods such as giving directions to farmers requiring them to produce stated quantities or to cultivate prescribed acreages of certain crops. Obviously the effectiveness of price changes in producing changes of production varies a good deal according to circumstances. Some readjustments of production are achieved easily; for instance, it is a question of substituting one crop for another in a rotation. There is not very much difficulty about this if the price can be made attractive. If it is a question of encouraging, say, the production of milk rather than the production of meat, again a great deal can be done by seeing that the prices of milk and of fat cattle are kept in such a relation as to give milk the necessary stimulus. But with regard to things like potatoes or other crops, where it is a question of inducing a considerable total expansion in the arable acreage, then the price mechanism is less likely to be effective by itself. Farmers must be induced to plant such crops in areas where they are not normally considered suitable, where the climatic conditions are unfavourable, and under such conditions it was generally thought in this country that price inducements ought to be supplemented by the use of compulsory powers, and so a good many of the crops which it was desired to extend into the western part of this country were made the subject of directions issued on behalf of the Minister.

Of course, a great many factors also intervene besides merely agricultural considerations. Monetary incentives vary in their effectiveness according to the value of money to the individual. It people are making good profits they may ignore an inducement which offers them an increase in their profits at the cost of a troublesome readjustment of their production. But if their ability to make a living is threatened by depression or by a deliberate lowering of the prices of the things they are accustomed to produce, the response may be much greater. The same thing, of course, applies to the response of consumers to price changes. If consumers are finding it difficult owing to poverty to keep their food expenditure within their incomes a variation of prices which enables them to save by substituting one food for another will be much more effective than in conditions where the majority can make ends meet without difficulty. These facts point to one important limitation of the effectiveness of price inducement under conditions of inflation such as have been experienced during and since the war. Even if inflation of prices is rigidly controlled and kept hidden away by comprehensive price regulation, none the less the inflation of incomes such as now exists in this country very much limits the effectiveness of price adjustments in steering production or consumption from one commodity to another.

Our far-reaching interference with market mechanisms to-day, then, is mainly the result of the magnitude of the change in our economy required during the war. But the post-war world is also very different in many important respects from that we knew before the war, and largely for that reason I doubt if it will be possible for us in the immediate future to make very much progress back towards the *laissez-faire* system. I agree that there is some danger that we shall lose interest in trying to get back to it, and it is important that we should not forget the inherent limitations that Professor Norton pointed out in the operation of government controls. They are very real, and prospective bureaucrats would profit by receiving instruction in them from Professor Norton. But our progress towards restoring the freedom of markets seems to me likely to be limited by purely practical considerations.

R. G. Bressler, Jr., *University of Connecticut, U.S.A.*

One thing that has impressed me during my short visit here in England and during our delayed journey from America is how frequently we discover that our disagreements are more apparent and superficial than real. I say this now because the following remarks may suggest that my disagreements with Professor Norton are more important than they really are, and because I suspect that an opportunity for more complete discussion would reveal substantial agreement. Certainly I am in accord with many of the points made in his paper.

The question of terminology may lead us into real difficulties. When Professor Norton spoke of the advantages of the free market, I thought he mixed and confused the characteristics of a *perfectly competitive* system with those of a *laissez-faire* economy. In order to clarify my further remarks, let me give brief definitions for these terms: *perfect competition* in its customary sense in economic theory means an economic system operating without lags or frictions, with perfect knowledge on the part of all buyers and sellers, and with the complete absence of elements of monopoly or quasi-monopoly; *laissez-faire* means an economy with all of its imperfections and monopoly elements but where government does not interfere through such devices as tariffs or price and production controls and where the individual is free to follow the dictates of his own self-interest (including the right to exploit any monopolistic position that he has or is able to create). It is unnecessary to stress the fact that these are far different concepts.

My first point is one where almost all of us will find a considerable area of agreement: the *results* of a system of perfect competition are for the most part socially desirable. I would add immediately that every nation has, on one occasion or another, seen fit to modify these results through such things as a graduated income-tax or by establishing minimum wages and working conditions. Nevertheless we visualize the results of the competitive system as a way of allocating and using our resources most efficiently and so of maximizing social satisfactions and the public welfare. We do not try to maximize food production, of course, for food is just one of the many things that we want. And let me stress that I am talking about the *results* of this theoretical system, and not about the peculiar characteristics of the competitive market. My first point, to repeat, is that most of us would agree that the results of the competitive system are efficient and, with minor revisions in line with our ideas of social justice, that they are socially desirable.

If we agree on this, then the next question is: how would a *laissez-faire* or free-market economy differ from the theoretical model of perfect competition? I have already indicated my belief that the differences would be great. To begin with, our economy is not free from elements of monopoly. In a modern industrial economy, technological developments force monopoly and large-scale organization on us. Nor does this require vast aggregations of industrial activity. The low costs associated with scale or size in such activities as agricultural marketing are important enough relative to the small size of the local market to make the alternatives either a considerable degree of monopoly with relatively low costs, or a limited amount of competition with two or three firms and with duplication, excess capacity, and relatively high costs.

But there are many other ways in which a modern free-market economy would differ from perfect competition. One of the most important has been mentioned—lags. Adjustments do not take place rapidly, and maladjustments may persist for years; the serious problems of the cotton south that Mr. Sayre discussed yesterday are examples of this. In addition any modern economy will have a certain amount of governmental activity. This will consist primarily of the establishing of rules and regulations within which the individual must operate. It seems clear, however, that pressure groups will continue to work for their own ends and that, while government may avoid large interferences with the free market such as the price supports and production controls discussed this morning, it will interfere in many other ways. Examples of this are such things as chain-store taxes, taxes on margarine, and the conflicting regulations that hamper over-the-road trucking. Without developing these ideas in more detail, I think that we must all agree that there are very significant differences between a system of perfect competition and the *laissez-faire* system that would develop if we simply ruled out major government interference.

Following our line of argument, if the results of perfect competition are desirable and if *laissez-faire* differs materially from perfect competition, the next question is: what, if anything, do we want to do about it? And it seems to me that here most of our discussion should focus. If I interpret Professor Norton correctly, then we agree that we should keep our hands off the system in those areas where the market mechanism works reasonably well. Many years ago the United States decided that there were other areas where the free market did not operate to the benefit of society. Therefore, government has taken over the mails and highways. We have regulated public utilities, perhaps not too well, and in other ways interfered where the free operation of the market did not give us the desired results. Between these two—the area where a free economy will operate satisfactorily and the area where the economy is already under government operation or control—there must lie a zone where the free system does not give results that compare well with the results of our theoretical system of perfect competition.

This is the problem zone that should receive more and more attention from our research economists. We need to describe our system in terms of actual inputs and outputs, and to estimate the conditions that would hold under perfect competition. Comparison of these would serve two purposes: first, to delineate specifically the problem zone; and second, to indicate the direction that adjustments must take if we are to approximate the socially desirable results. Then we must develop suitable methods to make the required adjustments. In this connexion I am willing to agree that we should give the benefit of any reasonable doubt to the uncontrolled system, since government is apt to be 'sticky', it does not adjust things too well sometimes, and it is corrupt on occasion. In spite of this it is my personal belief that there are a number of areas in a modern economy where the results of the economic system can be improved by appropriate government action. In many cases this will take the form of rules and regulations governing the actions of the individual entrepreneur. I have considerable sympathy with the frequently expressed belief that government should avoid fixing prices, although I suspect that price and rate regulation and control may be the only practical approach to some problems in the monopoly field.

This discussion recalls the wide acclaim that greeted Hayek's book *The Road to Serfdom* in the United States. As you may know, this book was regarded by certain groups in our country as a conclusive demonstration that all government activities were bad and could lead only to ruin. I had the opportunity of hearing Professor Hayek lecture at Harvard when he disclaimed this view that had been attributed to him in our Press. As I understood his remarks, his position was not essentially different from that outlined above. He agreed that it was the government's responsibility to establish appropriate rules and regulations, and that there were areas and problems (such as monopoly) where real governmental interference was necessary. I would have differed from him mainly on a point of fact: he seemed to feel that an economy such as ours might operate as 90 per cent. free and 10 per cent. controlled, while I would be inclined to modify these ratios somewhat. But I have already indicated that this whole problem should be the subject of intensive research. If we can agree on the general principles, and follow with good research studies to determine the actual facts, then we should be able to get together on a positive programme to improve the economy. This should do away with much of our useless debate and also with sweeping generalities based on assumptions of completely free or completely controlled economies.

Before closing, I would like to refer specifically to two of the illustrations in Professor Norton's paper. First, I believe that he used the marked increase in hog production in the United States during the early war years as an example of the effectiveness of the free-market mechanism. We have studied these developments, using the inter-war period to indicate the relationships between hog production and such factors as corn supplies, corn prices, hog prices, and so on. From our studies it seems quite clear that the increase to which Dr. Norton referred was far greater than would have been forecast on the apparent relationships that held during the inter-war years. In other words, there is a real question whether or not this represents a clear-cut example of the effectiveness of the free market and price system. Without attempting to develop this, I will only ask if the government guarantees of future hog prices might not have been the more important explanation. The response of hog growers may well have reflected the fixed and controlled price, and not the uncertain future price associated with an unregulated and uncontrolled market.

Finally, Dr. Norton abandoned his position to the extent of admitting that free-market operations were out of the question for certain commodities, specifically fluid milk, and that governmental regulation and price fixing were required in these situations. He went on to explain how we have developed state and federal pricing mechanisms, which tie fluid milk prices to the prices of certain manufactured dairy products, with price differentials for such factors as quality and location. I would agree that the nature of fluid milk operations, including the day-to-day fluctuations in both production and consumption, make it difficult to see how a free market could operate to the satisfaction of all concerned. In spite of these difficulties I would be inclined to use our milk-pricing experience as an argument against rather than for control. While differentials between fluid milk prices and the prices for milk going into manufacturing uses may have been influenced by location and quality, I doubt if anyone familiar with the industry would claim that these were the dominant factors. Instead, they seem to stem directly from monopoly pricing practices. Fluid milk prices are high because the consumer will pay high prices—because the demand for fluid milk is inelastic, if you prefer. It seems a good example of discriminatory pricing, with prices high and consumption limited in the market with inelastic demand, and prices relatively low in the markets with relatively elastic demands. This example could be presented as a classic illustration of the problem of control, where you begin with regulations to stabilize the industry, then increase prices in response to pressures, and finally attempt to surround your country, your trade zone, or your state with trade barriers based on tariffs and sanitary regulations in order to maintain the preferred position of the local producers. As such, it would be a very telling argument in favour of Dr. Norton's free market rather than an example of a necessary exception. Perhaps we can conclude by saying that milk marketing and pricing is an example of the problem zone where government action is required, and at the same time an example of the difficulty of gearing government action to socially desired ends rather than to the ends of particular groups within society.

R. W. BARTLETT, *University of Illinois, U.S.A.*

We have one thing at the University of Illinois that goes well with Dr. Norton's thesis of a free and open market. We have free and open discussions. There is no monopoly as far as I know that would be imposed on any of us in agreeing or disagreeing with others in the department or in the world at large. This morning I am not going to attempt to discuss in detail the thesis of Dr. Norton, though I agree in principle with the material which he has presented. Rather, based upon our discussion of the past three or four days, I would like to take a longer-range viewpoint as to what we are striving for, and show some of the impediments towards achieving the improved standards of living which Mr. Elmhirst outlined in his talk on the first day.

One of the facts we face is that a controlled market usually is the result of low consumer-income which goes with mass unemployment or results from war. England had one out of every eight workers out of work during the 1920s and one out of every six workers jobless during the 1930s. With the exception of 1921, the United States had a high level of employment during the 1920s, but during the 1930s one out of six of its workers was jobless. Low farm prices resulted from low industrial production and low urban income in both England and the United States during the 1930s.

As I see it, agricultural economists should give major attention to finding the underlying causes of unemployment and centre our activities in doing what we can to prevent stoppages in the flow of industrial products which cause low urban income, low farm prices, and which, in turn, lay the foundations for strife between nations.

During the past few months I have been putting together material dealing with this problem and will read the first page of this, which summarizes some of my philosophies.

It comes under the chapter heading 'Facing the Problems Ahead of Us':

'World War III can be stopped before it starts if our American leadership does three things: First, we must use the surgeon's knife to remove the rotten parts of our economy which caused millions of jobless people and a continued depression during the 1930's. Secondly, we must continue to help put nations who want our help back on their feet. And in the third place, we must maintain a strong military force to insure respect from the rest of the world until the growing pains of the United Nations have stopped and this organization is able to assume adult responsibility.

'Few people will question the wisdom of having a strong military force. Nations which survive are those which can protect themselves. Theodore Roosevelt's theme was : "Talk softly and wield a big stick." The United States now finds itself in the role of world leadership. To hold this, we must be respected and be able to defend ourselves against those who have less.

'After World War I, America thought it could isolate itself and let other nations take care of themselves. It didn't work, and we had another World War. What Europe and other nations need from the United States is industrial machinery, railroad equipment, farm implements, food, clothing, medical supplies and other consumer goods. Failure to get these, means starvation, strife and misery. World War III is a certainty unless we help supply the things which will help people in different countries of the world to support themselves, and gradually improve their standard of living.

'The first step in this process is to get our own house in order so that, year after year, we can keep our factories going, our people employed and maintain good markets for our farm and industrial products. Russia is depending upon a business depression to throw us into such a tail spin that we'll pull out of Europe and she can take over. And Russia relies upon the fact that for the decade before the war one wage-earner out of every six in this country was jobless and for a decade we were groping blindly trying to get our people back to work. We had a sick economy all through the 1930's with nearly nine million jobless people as late as 1939.'

Now that brings us to the question of analysis as to where we are going. As I see it, cyclical downward swings in business are a primary cause for governmental control in non-war periods. If farm prices decline, as they are likely to decline, if our industrial prices and wages fail to decline, as they are likely to fail to decline, there will be tremendous pressure upon our government for increasing government relief and governmental controls. If we look at the history of the world between the First World War and the Second World War, we can trace the political upheaval in several countries directly to this cyclical period of unemployment. In Italy mass unemployment and grass growing in the streets of Rome led to the Mussolini régime in 1922. In Germany 6–8 million people unemployed, with about 250,000 suicides in 1932 evidencing their hopelessness of the future, led to the Hitler régime in 1933. In Spain, and I hope my Spanish friend will correct me if my statements do not appear right to him, chronic unemployment and poverty together with religious and political hatreds led to the devastating fratricidal Civil War from 1936 to 1939.

Let us discuss this question of unemployment a little further and deal with Britain first. Data were obtained on employment and unemployment in Great Britain from 1880 to 1940. These were published in my book which was released last year. I am listing each of the high points of unemployment in Britain during that period as follows:

Year	*Proportion unemployed* %
1886	10·2
1893	7·5
1904	6
1908	7·8
1921	14·8
1932	22

Unemployment data for the United States as reported by the National Industrial Conference Board go back only to 1900. The high points of unemployment were as follows:

Year	*Proportion unemployed* %
1901	6
1908	6·7
1921	12·7
1933	23·3
1938	18·4

As I stated before, in 1939 we had 9 million jobless people, and for the decade of 1930–40 one out of six wage-earners was out of work. Had farmers been eliminated from the total, the proportion of unemployed would have been much higher.

Now take the second point which seems to me to be a vital issue—the question of farm prices. Farm prices in the United States will fall within a few years if history repeats itself. Let us briefly review the history of prices during four major wars. Following the war of 1812, prices of farm products were highest in 1816, two years after the war ended. By 1821, five years later, prices had fallen to about half those received in 1816. Following the Civil War, prices of farm products in 1864 were nearly double those received before the war. By 1871, seven years later, prices had fallen to about five-eighths of those received in 1864. Following the First World War, prices of farm products in 1919 were about $2\frac{1}{4}$ times those received before the war. By 1921, two years later, prices had fallen to about three-fifths of those received in 1919. Now, in the aftermath of the Second World War, prices of farm products in 1947 were about $2\frac{1}{2}$ times those received before the war. So we have before us two plain facts. During wars farm prices rise. After wars they fall. Hence we can expect sharp declines in farm prices in the United States within a few years.

Comparing the Second World War with the First World War, we have another set of facts that are basically different. At the end of the First World War we had a national debt of 26 billion compared with 260 billion dollars at the end of the Second World War. Our present budget for expenses of government is now over 35 billion dollars annually compared with around 6 billion after the First World War. Both of these facts make the present position of the United States far less stable than after the First World War.

Now let us take a look at our present industrial production in the United States. We are now producing 185 tons of goods for every 100 tons produced from 1935 to 1939. This large volume of production has been absorbed up to now because of accumulated deficits—both at home and abroad. But what about the future? At home we find that the purchasing power of the American people has been declining since August 1945. Increased incomes for the people as a whole have not offset increased costs of living. Along with this we find that many savings accumulated during the war have been spent. Then abroad we find that since most countries have been importing so much more than they have exported to us they have a dollar shortage. Hence in the future a greater proportion of our industrial production must be absorbed at home.

As I see it, the number one problem of the world to-day, both for Americans and others, is to keep production in the United States at a high level so that it can assume its responsibility of helping to put other nations on their feet and help to make the Western World a going concern. While our country is not as generous as many of you would like to have us be, with 60 million people employed and an industrial production at its highest level of peace-time history, I am convinced that our people will assume the responsibility both of providing relief and making productive loans for reconstruction.

If, however, we should have the mass unemployment which we had in the 1930s, and which Britain had for two decades between

1920 and 1940, the reaction in our country might well be for us to retreat into our shells and let the world 'stew in its own juice'. I believe you will agree with me that this would be the most damaging thing which could take place.

Now we get to this question: What was the underlying cause of mass unemployment in Britain from 1920 to 1939, and in the United States from 1930 to 1939? As I see it, the same underlying cause can be found in both countries—namely, a creeping paralysis of monopoly which has destroyed the resiliency still characteristic of agriculture and parts of urban industry in the United States. May I point out that our depression of the 1930s was not caused by agriculture? In 1932 American farmers produced 99 tons for every 100 tons of products grown in 1929. Our farmers continued to produce in spite of monetary, fiscal, and tax policies which were pulling down our economic structure.

Professor Ashby has pointed out the monopolies which have existed in Britain's agriculture, including the nitrate and potash monopoly, the superphosphate monopoly, the monopoly in feeds, and the monopoly in farm machinery. Facts disclosed at the Paris Conference show wide differences in efficiency in industrial production. A coal miner in the United States in one year mines four times as much coal as a British miner—25 carloads as compared with $6\frac{1}{4}$ carloads. A steelworker in the United States turns out about four times as much steel as a steelworker in Great Britain; an auto worker in the United States produces about four times as much as a British auto worker; and a textile worker in the United States turns out about $2\frac{1}{2}$ times as much as a worker in Britain. Part of these differences can be explained. For example, some coal is mined in Britain three miles below the earth's surface. In these cases costs for mining coal would be higher with the most modern equipment.

But in my opinion the underlying cause of the differences in the use of industrial labour in the United States and Britain has resulted from monopoly control of Britain's important industries, in some cases extending back for 100 years or more. Monopoly control in turn has tended to stifle competition, prevent reinvestment of needed capital, and prevent the introduction of low-cost methods of production.

Professor Nash has pointed out that prior to the First World War Britain had capital invested in many other countries and, for the most part, reinvested the income from it. Then between 1919 and 1939 most of the income from these investments was not reinvested but used to pay current expenses. Liquidation of most of Britain's foreign investments during the Second World War, as pointed out by Professor Nash, has left the country dependent upon its current production. Continued mass unemployment in the United States during the 1930s resulted from the same cause which has led to a decline in Britain's industries—namely, monopoly control which has tended to stifle competition. Fortunately for our country we are still in the early stages of monopoly control and hence our industries have not suffered as much as those in Britain from this type of control.

Let us trace the development of the steel industry. Steel is one of the most important of our industries. We have had in the steel industry during the present century a growing concentration of control. Six companies now control 83 per cent. of our whole steel production, while one company controls over one-third of all steel produced. Back in its earlier history we had a high degree of competition. For example, during our depression of the 1890s, prices of steel were reduced from 2·04 cents a pound in 1890 to 1·14 cents in 1894. During this period the steel industry adjusted itself to a depression by lowering prices. Then steel production fell only 20 per cent., so that for every 100 tons produced in 1890 there were 80 tons produced in 1894.

In contrast, during the depression of the 1930s the steel industry lacked the competitive force that it had in the 1890s. This period disclosed the clumsiness resulting from its high degree of centralization of power. Steel prices were reduced only 15 per cent. and 1932 production fell 76 per cent. Expressed otherwise, for every 100 tons of steel produced in 1929 only 24 tons were produced in 1932. Low production and low payrolls resulted in economic paralysis in every part of the country where steel was mined or manufactured. Loss in payrolls, in turn, destroyed the markets for food. Hence farmers as well as wage-earners in the industry suffered from the monopoly prices exacted by the steel industry.

Looking ahead I believe that the key to whether or not we are to have another big depression with continued mass unemployment rests in the policies of six or eight of our large manufacturing industries. A short depression appears almost inevitable. A long depression can be avoided. Government ownership and control of basic mass production industries is probable if these industries permit another relapse similar to the 1930s. Concerning this, Fowler McCormick, chairman of the board of the International Harvester Company, recently said:

'It is apparent that we are now expressing a full turn of the wheel....

More than other groups, American management has the opportunity to improve the economic status of all the people. If it does not rise to this opportunity, it will be failing in its human relations, and the people may well turn to another system . . .'.

The United States has 6 per cent. of the world's population and produces 50 per cent. of the world's industrial goods. Our country is in a key position to assist other nations in increasing their production. Every country needs to see a little 'blue sky' ahead to hold up its courage during these troublesome times. The United States is in a key position to provide this ray of hope by quickening reconstruction and production within these countries. Personally I would like to see more attention at this Conference centred upon basic questions of how to remove causes of low production, and perhaps less attention on how to live happily on a little, through use of quotas, controlled prices, and other methods now in use which stifle production and perpetuate low living standards.

L. Samuel, *Tel-Aviv, Palestine.*

Price formation in Palestine was determined during the war by the fact that the country is a 'demand' country. Production in mixed farming had to be stepped up in order to reduce dependence on imports. Before the war the Arab community had to import about one-third of its requirements in essential food, the Jewish community almost two-thirds.

The price policy resulted in a doubling of the output in intensive Jewish farming, but only in an increase of some 20 per cent. of Arab extensive farming. Dependence on imports has consequently decreased until to-day it is only slight with regard to the Arab community. The Jewish deficiency decreased from 65 per cent. to 45 per cent.

In price fixing, entirely different methods have been used for milk, the most important product of intensive farming, and for wheat, the main cash crop in Arab farming. Maximum prices for milk were and still are based on costs of production, plus a profit, which was substantial until 1944–5. Milk production doubled from 1938–9 until that year. Production is still increasing but much more slowly. For wheat, the Government in 1942 fixed a purchasing price three times as large as before the war, and really got at least a substantial share of the actual 'surplus'. But this purchasing price was never changed, and was already in 1943 lower than the price on the free market. As a result hardly any surplus was offered to the Government and it virtually ceased to be available in 1944. Very high prices are ruling on the cereal market since the official decontrol of Trans-jordan wheat in the autumn of 1945. In spite of this high price level, production increased by barely 30 per cent. in extensive farming, if bread and fodder cereals are considered together. High prices do not always result in higher production. Arab farming is not very elastic, and only the more progressive circles of Arab farmers succeeded in expanding production on a substantial scale.

Concerning long-term price policy, a combination between guaranteed prices for a few key products, milk, wheat, olives, and a completely free price formation for all other farm products has been suggested. The goal is to assure farmers of a substantial part of their income, but to stimulate their initiative in order to get the remainder. For milk, the establishment of a Board along the lines of the English Milk Marketing Board has been envisaged. Such a Board would have in Palestine one additional task to those prevailing in England. The Board would have to regulate a market with an increasing *per capita* turnover for a long period. In an immigration country, not only will an increased total be needed, but consumption per head of locally produced milk and milk products will have to be stimulated in order to enable an optimum colonization of the land.

J. H. KIRK, *Ministry of Agriculture, London, England.*

Those of us who are concerned with deliberate price fixation for farm produce must necessarily regard Professor Norton's opening remarks as a challenge, for our countries have abolished, or are in process of abolishing, many of those market mechanisms on which he relies for the mutual adjustment of supply and demand, and the expression of consumers' preferences. Professor Nash has presented part of the case in answer to Professor Norton's arguments, and I am in agreement with that answer. Professor Nash has, however, attempted to justify deliberate price fixing only in two sets of circumstances—war and depression.

Several countries, including the United Kingdom, wish to go farther than that. In the United Kingdom, for example, price fixing for farm products, representing three-quarters of total output, has been written into our permanent legislation, and the opposition parties have not dissented from that general principle. In respect of farm prices—in which term I include subsidies—the objectives are to guarantee farmers an income higher than between the wars, and to free them from marketing worries and problems so that they can devote all their attention to the primary job of production. In respect of retail prices and consumer subsidies the Government's aims are less well defined, but may include the use of price and subsidy variations to promote a higher level of nutrition.

At the present time these objectives have been pursued to such a point that not only are ordinary market mechanisms in abeyance, but we have a complete divorce between farm and retail prices. An example has already been mentioned—the retail price of eggs is only half the farm price.

Professor Norton's remarks have made me ponder over the likely conditions for success for such policies, bearing in mind the ordinary —but highly important—role of supply and demand which those policies would suppress. Three points have occurred to me.

First, the process of price fixing must be highly efficient if it is to succeed, and there are two implications of this: first as to the quality of the Civil Service in any country attempting complete price fixation of farm produce, and secondly, as to the quantity and accuracy of the statistical data at the disposal of those fixing the prices.

But these are matters of machinery: more important still is the spirit in which the machinery is worked. The spirit must be one of objectivity—a desire to reach a fair and reasonable price, free from the machinations of lobbies and pressure groups. No country is likely to be able to guarantee that such influences will be completely suppressed, but I can speak from experience in saying that they can be kept within bounds. Our chief worry in this direction is a rather misplaced insistence by the farming community on strict equity and even equality among the several branches of the industry. With each commodity interest wishing to maintain its position *vis-à-vis* the others, it becomes more difficult to use changes of price emphasis as means of adjusting the proportions of commodity output to national needs. But we are hopeful that the need for changes in price emphasis will become better understood year by year.

The third condition for success in price-fixing policy to which I would allude is that the country concerned should be a substantial exporter or importer of farm produce—preferably a substantial importer. This provides an essential safety valve. When mistakes in price fixing are made—and obviously they will be made—their effect is much diminished if the produce affected is only a part of the whole supply. In the case of the United Kingdom the effect of such mistakes is on the average more or less halved.

Two further reflections I would offer which make us feel rather more comfortable about being able to carry out successfully these policies of price regulation. First, we have had seven years' experience of operating them. It is true that most of those seven years have been war-time, when the consumer's preference had not to be studied closely, and he could be thankful for whatever he got. But, on the other hand, war conditions were extremely difficult for assembling the necessary statistical data, and as we were new to the game we had to improvise all the time.

Secondly, we have to remember that the alternative of relying on supply and demand is not altogether a bed of roses. Professor Bressler has mentioned a number of imperfections in ordinary market mechanisms, and many of us could think of others. So we feel that we can, to put the claim no higher, afford a certain number of mistakes and errors without necessarily producing any worse result than Professor Norton's apparently attractive alternative.

W. E. HEATH, *University College of Nottingham, England.*

We have heard a number of very interesting general observations on the subject under discussion to-day. Professor Norton opened the discussion by delivering a slashing attack on the controlled market mechanism. Professor Nash has defined in some detail what we mean by control of the market mechanism, and he then went on to support the use of such control during war. He was not, however, so happy about its value in peace. Mr. Kirk, on the other hand, has told us that fairly strict control of the market mechanism is to be regarded as a feature of our permanent agricultural policy in this country. I want to bring the subject down from the high level at which it has been discussed so far and consider one particular aspect of interference with the free-market mechanism. The particular point I want to mention is the price-fixing policy adopted in this country in recent years in relation to what I conceive to be the objectives of price fixing.

One of the primary objectives of price fixing is indicated by the title of this morning's discussion, that is the adjustment of farming production to public needs. In a free economy this adjustment is achieved by the free play of supply and demand, and whatever its deficiencies every individual consumer has the opportunity of adding his or her mite as a factor in determining the final position. But when price fixing is not left to the free play of supply and demand the prices have to be fixed by a government department or some other body, and under such conditions the people saddled with taking price decisions are faced with considerable difficulties. In the first place they must rely on having at their disposal an adequate body of economic data. In this country we have made great efforts in recent years to improve and widen our economic data about farming, but

I do not think we have got anything like enough. In the second place, when the prices are fixed by a special body, and not by the consumer's demand in relation to supply, many other considerations must creep in. If prices are adjusted by government departments, then political considerations creep in. Often the needs of the producer receive over-emphasis, and the result is not always one which will achieve the objective of adjusting farming production to domestic and public needs. In my view the volume of economic data which would be necessary to portray the needs of the buyer to the consumer is so great that any attempt to collect it would be a failure. I do not see any possibility of collecting sufficient economic data to do this. For example, in the case of many commodities, particularly perishable commodities, there are not two or three prices in the free market, there are hundreds of prices, varying seasonally, varying according to the quality of the produce, and varying even from one day to another, depending on whether the purchase is being made on Monday morning or late on Saturday night before the week-end.

A second and somewhat narrower objective of price-fixing policy is to provide the producer with a certain degree of stability and security. And here again I feel that two criticisms can be made of a policy depending mainly on fixing prices. In the first place there is the difficulty of the average. Prices are fixed partly on the basis of economic data and partly on other considerations. But in so far as they are fixed on the basis of economic data they are normally related to some sort of average cost of production, and this seems to me to be a major obstacle because, if one could imagine a level distribution of costs, a price fixed in relation to the average would give 50 per cent. of the producers too much money, and it would put the other 50 per cent. out of business. This leads, I think, to a second criticism of price fixing. From the point of view of providing the producer with stability and security it is necessary to fix the prices at something a good bit over the average cost of production. This tends to stabilize existing and sometimes inefficient systems of production.

A third objective of price fixing is to provide the Government with a method of influencing production and guiding it by price incentives into the channels it desires. Such a weapon is, I think, undoubtedly required in times of emergency such as we have passed through during the war and such as we are facing just now, but I doubt very much whether a weapon of that kind should be used when we arrive at times of abundance. When goods are in full supply then I would suggest that production would be best guided by the needs of the consumer as expressed by the market price.

A fourth, and the last objective that I shall mention, is the suggestion that the controlling of prices, again in times like this, provides the Government with a weapon with which to control inflation, the suggestion being that by means of strict price control it is possible to prevent prices moving upwards. We have found, however, that that does not work altogether too well. Wages have not chased prices, but we have in this country experienced a condition in which prices have chased wages. That, I feel, is another argument against price fixing.

I do not want to suggest by these remarks that I am against a controlled market mechanism of some kind or other. I realize fully the advantages of a controlled market mechanism in providing the country with the general stability and the decrease in unemployment which we all want. What I am concerned about is not so much the direction in which we are going, but rather the vehicle in which we are travelling. I feel that there is scope for a lot more thought on this question of providing the producer with the stability and security that he needs and at the same time meeting consumer demand. Before we commit ourselves for ever to a policy of fixing prices and abandoning the advantages of the free market we need to think a long time. What the alternatives are I do not know, but I feel that we ought, if possible, to try and obtain, if it can be done, the best of both worlds.

W. ADAIR, *Editor, 'Farming News', Scotland.*

I hesitate as a journalist to take part in this discussion among professional economists, but I have made a fairly close study of world food-supplies for at least thirty years and I think that some of the experiences that have occurred during that period throw light upon the issue which has now been put before us so vigorously and efficiently by Professor Norton. Professor Norton argued that probably the most rapid and satisfactory adjustment of prices is bound to arise under free conditions rather than control conditions. I can think of one or two fairly big experiences which the world has passed through, and I would like to put forward one or two of these points to test that assertion of Professor Norton.

One I remember very well was in 1924, the only time I ever visited Canada, when I crossed to Vancouver and had an opportunity of studying the wheat position in the Prairie Provinces. The year 1923 saw a record crop at that time for Canada, and I think I am right in saying that there was a record yield per acre. It was known as a bumper crop. That bumper crop in 1923 brought more ruin to the wheat farmers of Canada than any other experience they had had in the west. The complete collapse of prices led to the abandonment of many of the farms; we who travelled through Canada in 1924 saw these abandoned farms. Now, if free trade in the markets then caused that serious disturbance leading to the abandonment of farms over very wide areas and a complete collapse in the confidence of the producer, it is quite obvious that you are not going to get any speedy adjustment in prices in favour of public needs as a result of such a system. The very high prices which were reached even in July before the crop was reaped in 1924 in Canada would certainly encourage production, but not in that year. That year was about the shortest crop I should think that Canada ever had, having regard to the area sown. In other words, the Canadian farmers were being rewarded in 1924 for the sudden collapse in prices due to the bumper crop in 1923, but none of them had wheat to sell in order to reap that reward. The wheat was not there, and it took a good many years before wheat was produced on a scale to ease the general world price-situation. We in Great Britain are very much dependent on Canada for wheat (far more dependent on Canada than would seem from recent years, because the U.S.A. has exported wheat on a far bigger scale in the latter years of the war than before the war), and from memory I would say that our bread prices in Great Britain shot up as a result of the very short crop of 1924 and the abandonment of all those farms in the west. They remained up almost till the big collapse in America in 1929, when the general economic crisis took place.

When you are thinking of these collapses in prices and the very sharp rises that follow them, you have got to consider who suffers when a depression occurs. If you examine the bread-price structure in Great Britain you will find that before the Ministry of Food took control, the bakers of the country, very largely on the suggestion of a voluntary food council which existed in Britain in peace-time, regulated their bread prices on the basis of flour prices. It all depended on the price of flour how the price of bread went, and I want you to bear in mind that that arrangement meant that every time the price of bread had to go down through economic forces there was only one party squeezed and that party was the grower who produced the wheat. No other party in the whole bread structure gave way on a single item, because every other party taking part in the production of bread had his own services on a costed basis and saw to it that he obtained the price related to that costing basis. The only man who suffered was the grower. If you are going to say that free play is a good thing, then I say it may be a good thing for every other trader who is taking part in the food service of the world but it is not going to be a good thing for the grower.

We in this country (taking it into the British sphere for the moment) have fixed prices, as you know, for fat stock along with other classes of produce. It was only during the war that we could have fixed prices for fat stock. Before the war all fat stock was sold under the most rigorous example of the free play of the market—that is, the livestock auction bidding—and I should say that from the experience in the war, whatever happens later, the farmer will never go back to auction sale of his fat stock. I mention this example because Professor Norton suggested that in a free-play market the publicity given to market prices ensured the producer a reasonable price; he knew the price that was ruling in the market and he saw that he got that price. Now as regards publicity, I am going to suggest as an expert (and I can claim to be an expert here, even if I am not a professional economist, because it has been my profession all along) that we never had a fair price for cattle published in the newspapers of the country. Fair prices simply could not have been published. In nearly every large market town in Great Britain there were two firms, rival auctioneers, and the reports that were published in the Press of the prices obtained for cattle were supplied by the auctioneers to the daily Press. There was no other way of getting the prices. They could never have been published so rapidly next morning in the daily Press if they had not been got direct from the auctioneers, and it was only human nature on the part of the auctioneer to suggest in the reports to the Press that the cattle were fetching a little more than they really were. They quoted that cattle of such-and-such a weight, say 12–13 cwt., were getting up to such-and-such a price per head, and so on for the other weights, and invariably the range quoted was higher than the actual transactions. The temptation on the part of the auctioneer to take that course was due to the fact that he imagined that if the farmers read in the daily or weekly papers the price at which cattle had sold at his market according to the figures he quoted, they would transfer a good deal of their custom to his market rather than to the other market. And the result was that there was competition between the auctioneers as to how far they could really exaggerate the prices that were being paid for stock. Under these circumstances the farmer had no guidance whatever as to the level of the market, and moreover, as you know, we imported about half of our meat supplies from abroad and the large importers could make or mar the whole market by sending out wires to the local buyers of home-produced stock. All the very big importers had stances in Smithfield and sold home-killed meat, and it depended very largely on the telegrams which they sent out to the dealers throughout the country how the level of home prices would react.

Professor Norton admitted that he made one exception in his arguments in favour of free play, that was milk, and I was not at all surprised that he made that an exception. Other speakers have agreed with it, and I think it is absolutely impossible, from the point of view of continuity of production, for fluid milk to be sold free of some control—not high prices for producers but continuity of production—there is no other way than by controlling the price in some way or other. We in the west of Scotland were the first people to attempt the pooling of milk by producers in this country. The pooling of milk, as you know, is now part of the whole structure of milk marketing, but we had an experimental pool run by farmers themselves, and that pool was created because farmers began to realize that, even though they tried to negotiate as a union with the distributors' union, they could never tell when there was a surplus of milk in the country. When a farmer said to a distributor 'I want a milk contract', the distributor probably replied: 'I can't take your milk, the market's flooded.' There was no means of testing that statement by any distributor. There was only one way of getting all the information necessary to give producers confidence, namely, by the creation of the Marketing Board which we have to-day, a controlled form of marketing quite away from free play.

I hesitate here to make any criticism of America's decontrol of her prices, because we do not know America's circumstances and it is not for us to offer any criticism. But I do think that it is very probable that America hardly appreciated how harsh was her action in stopping Lend-Lease so suddenly and also in decontrolling prices. I merely intend to give, in a very few sentences, the tremendous effect these actions had on the British market. You have got to remember that before the war Great Britain drew her food supplies from every possible source in the world and drew them at the cheapest possible rates. But immediately war broke out, as we have learned from Professor Nash, the first consideration was economy in shipping. Economy in shipping meant that, right throughout the war and right up till now, Britain had to concentrate very, very strongly on the North Atlantic route. She had to concentrate on that route in order to economize in shipping, and not for any other considerations. That meant that Great Britain had become—and Europe too, for that matter—far more dependent on the North American continent, on the U.S.A. and Canada, for her main food supplies than she had ever been hitherto. She had become far more dependent than she would ever have done under any voluntary circumstances because it would have been very dangerous to throw herself so much on one or two markets as her main source of supplies. That tremendous concentration, which was done from the point of view of war exigencies, in relying on the U.S.A. and Canada for both meat and cereals in such a large measure, meant that when these pipelines—that is the best word we can use to define the position—suddenly ceased, or suddenly were screwed down to a very short supply, or the prices relating to the supply coming through these pipelines jumped through decontrol in America, it threw this country into a very serious economic position, apart altogether from dollar exchange. Professor Bartlett in his contribution emphasized that history has shown that prices have always tended to rise during war and have fallen after war. I do not think there is any doubt about it that even the Labour Cabinet, no matter what their views may be on price control generally, were banking on this experience repeating itself. I do not think there is any doubt whatever that Mr. Strachey, in any number of replies which he made in Parliament regarding the very heavily swollen subsidy bill which is now attached to our food supplies, was banking on a fall in prices this autumn. How far that hope has failed is quite obvious now from the increased prices which the Labour Government has announced in order to stimulate production in this country. I do not know how far I have answered Professor Norton's very able exposition of the free trade market. I do think, however, that the Canadian wheat position which I quoted does show that, if continuity of production is going to be a real public need—and I think all economists will agree that continuity of production *is* a real public need—such disturbances have the very opposite effect of what is claimed for them.

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Our discussion has thus far focused largely, although not entirely, on short-run or emergency adjustments in the use of farm resources. Obviously, free market prices are not the most effective means of allocating resources during war-time. There are too many conflicting ends: the consumer's desire to maximize personal satisfactions conflicts with national interests in the use of resources. The competitive bidding for resources between the consumer and the nation may well establish a pattern of incomes which is in direct conflict with given concepts of equity in the personal distribution of war costs. Numerous resource-allocation or income-distribution problems which grow out of war do not cease with the shooting. This fact is only too evident to many of the nations represented at this conference.

I propose to lift the problem of resource allocation as related to pricing out of the short-run setting and view it in terms of the long-run. Only then can we talk on a common basis. This is not a plea for government manipulation of prices. Rather, I propose that the following procedure is appropriate for an objective analysis of the problem: first, we need to determine the extent to which the allocation of resources in a free market does or does not approximate the optimum. Second, we need to determine the reasons for any divergence which may exist. Lastly, we need to analyse the situation to determine whether government price-policy (with due consideration to the political setting within which it must function) will result in a more or less desirable allocation of resources than holds under the free market mechanism at any point where the latter is imperfect.

This analysis can best be made in terms of a given pattern of income distribution. It is necessary, however, that we recognize the dual function of commodity prices. They not only serve as a mechanism for allocating resources but also determine the distribution of personal incomes. This is true, since resource prices are derived from commodity prices. A great many of the problems revolving around government price-policy stem from this very fact.

Government price-policy has not always related to commodity prices alone. Actually, in the United States some very important policy has been directed at resource prices. An example here is the disposal of public lands. The Government's decision to place a very nominal price on land for settlers who exercised their pre-emption rights, and finally to give land to homesteaders, definitely involved interference with the free market price. Price policy in respect to public lands in the United States was mainly a consideration of 'personal income distribution'. Our farm-credit system in the United States is a price policy as related to resources. The Government's decision to establish a Federal Land Bank with certain established interest rates interfered with the free market mechanism. In a sense, our agriculture experiment stations and agricultural extension service represent government price-policy in respect to resources. Our society furnishes certain services free to agriculture.

These same services could be obtained at a price were they not subsidized by the federal or state governments. We simply decided that the market-pricing mechanism was an imperfect means of providing these resources. I call attention to these facts in order to indicate (1) that price policy is, after all, not a recent innovation even in the United States, (2) that it need not be restricted to commodities alone, and (3) that a great deal of confusion arises because we do not always differentiate between the income distribution and resource allocation aspects of the problem.

In analysing the extent to which the free market results in the most efficient allocation of resources it is useful to establish some optimum or ideal type as a benchmark for comparison. With a given pattern of personal income distribution an optimum use of resources will exist if (1) the pattern of production is such that the shifting of one unit of land, labour, or capital between two commodities results in a smaller total utility to consumers, or (2) a different combination of resources in the production of a given quantity of commodity results in a smaller total consumer satisfaction. There are numerous areas in which the free market mechanism does not result in an allocation of farm resources identical with this optimum. In some instances the divergence may be small; in other cases it is sizeable. In outlining these areas I do not intend to imply that government control of prices should necessarily be substituted for the free market mechanism. The end in question is the most efficient use of resources. The alternative means are government price-policy and free market prices. Which of the two is the most efficient means to the given end?

The following discussion briefly specifies the areas in which the use of resources is imperfect under the free market mechanism as compared to the optimum outlined previously. It also touches upon the reasons for these divergences.

1. A major inefficiency grows out of false price expectations on the part of producers. This is expressed in the production cycle for individual commodities such as hogs, cattle, or even potatoes and orchards. The production period in agriculture requires a considerable time span. Input of resources in hog production, for example, must begin ten to twelve months before the finished product is ready to market. The producer must estimate future prices at the time his production plan is initiated. Obviously, his expectations deviate rather widely from prices actually realized. Wide swings in the year-to-year production and price of (say) pork thus result. Consequently, society has a greater quantity of resources invested in pork production than would be necessary were the 'average' production forth-

coming each year. The same holds true, of course, for the individual producer.

2. Production instability growing out of fluctuations in weather and consequently crop yields also results in a use of farm resources somewhat short of the optimum. Obviously price policy cannot eliminate these variations in yield. Yet it is true that the free market price does not always result in the best use of resources given these vagaries of weather. Commodities such as wheat which are consumed directly as food are on the market in large supplies in years of large crops and in small supplies in years of poor yields. There is some basis for reasoning that the total utility to consumers is less under fluctuating than under stable supplies. In terms of the classical concept of the consumption function, the marginal utility of a plus 100 million bushels in a year of high yields is less than of a minus 100 million bushels in unfavourable years. (It is possible to imagine cases in which this condition need not hold true.) For products which are used as livestock feeds, fluctuating yields may result in facilities for livestock production nearly great enough to fit the supplies of good years. Again an over-investment in the quantity of resources necessary for a given amount of livestock products results. Output may swing from x to $3x$ with an average of $2x$. However, the quantity of resources employed is geared to the output of $3x$. The solution lies in carrying the surplus supplies from years of good yields over to the years of poor yields. Our futures market tends to even out this flow of products between years. It is not perfect, however, especially when several good years and several bad years are clustered together.

3. Uncertainty of market prices may often result in a scale of farming operations which is inconsistent with the optimum use of resources. It is well known that even in the United States large numbers of farms are not of a size such that the economies of scale have been fully realized. Many farmers simply do not own the necessary funds to expand to this limit. Yet they are also restricted in borrowing funds (for expansion) either by lending institutions or by their own refusal to do so. A portion of the inability or unwillingness of the farm operator to borrow additional funds grows out of the uncertainty of the market. Lending institutions normally apply a rule-of-thumb procedure based on the operator's equity as a means of eliminating the possibility of loss in case the market turns unfavourable. Similarly, the operator may refuse to borrow even though additional funds are available and returns otherwise appear favourable.

4. Agriculture is sluggish in adjusting to major changes in price relationships which call for a transfer of human resources either into or out of the industry. This imperfection is well illustrated in the cotton producing and similar areas of the United States and largely revolves around institutional factors which are also market considerations. Imperfect knowledge of future prices and alternative returns on resources is also important.

5. The pricing system does not always result in the most efficient combination of resources for a given amount of product even in terms of simple farm practices. Supposedly, the pricing mechanism should bring about the optimum rations for livestock, liming and fertilization of land, crop rotations, and other practices through the profit incentive. Yet we are all well aware of the gap which exists between this optimum (in terms of maximum returns and on the basis of known techniques) and the actual on a very great number of farms.

6. Costs and returns for the individual farmer as expressed in the market are not always identical with those for society. Consequently, the actions of the operator in utilization of his resources may be in conflict with certain social objectives. Numerous examples can be cited here. Quite often the tenant farmer in the United States refuses to lime his land or adopt the most productive rotation (in terms of economics) for this very reason: although society benefits fully from the future product forthcoming, the tenant does not, should he move before long-term resources are entirely exhausted. Similarly, it may be in the interest of society that erosion of soils beyond a given level does not take place. Yet the individual farmer may allow rain waters to continue running from his farm over adjoining farms where valuable crop lands are washed away. The individual does not share the cost with society as the waste occurs. Conversely, he would not benefit to the same degree as society were he to invest in practices which prevent the flow of erosive water on to lands other than his own. The pricing mechanism has not rewarded the individual and society identically in these cases.

The academic answers to each of these cases are already fairly well known. In the order presented above they are: (1) Forward prices established to equate supply and demand at the equilibrium level (in contrast to the actual pattern in which prices continually fluctuate around the equilibrium level in the sense of the cobweb theorem). (2) An ever-normal granary by means of government purchases and sales or by commodity loans to farmers at a level which facilitates carrying surplus stocks over into deficit years. (3) Long-range guarantees for farm prices to reduce uncertainty, and government underwriting of certain economic risks. (4) An investment in the human resource to develop alternative skills and abilities and a national employment service to underwrite or otherwise facilitate the movement of people into or out of agriculture. (5) Incentive and practice payments (or, conversely, penalties in terms of fines or otherwise) to focus direct attention on the premiums on efficient use of resources. (6) Compensation laws for unexhausted resources and direct payments to equalize returns to the individual and society.

Now were it possible to administer these price and supplemental policies in a perfect manner, increased efficiency in the use of farm resources would certainly result. There are, however, two reasons why administration might be something less than perfect. One of these rests on the possibility that the administering body may make mistakes in establishing the level of forward prices or stocks to be carried into the future. But assuming that this obstacle can be hurdled, there still exists the possibility that administered prices might give a use of resources less efficient than those of a free price system because of political pressures. It is here that the dual function of prices has important ramifications. Price policy should be looked upon as a means to the end of more efficient resource use. It should not be looked upon as an end in itself. For example, producers may look upon it as an end in the sense of redistributing personal income. There are, however, more desirable methods of redistributing incomes, should this be the problem. Yet at any time an administrative body attempts to change the level of prices to effect a more efficient use of resources, it will likely alter the pattern of personal incomes. Accordingly, there may be continual pressure on the part of producers to alter the price level in their favour. To the extent that this comes about, use of resources may be less efficient under administered prices than under free market prices. The crux of the problem is in determining whether a price policy which must be administered within a setting of political pressure from individual producers can result in a more efficient use of farm resources than exists within an imperfect free market.

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I think it was Voltaire who said: 'Marriage sometimes turns out to be not good, but celibacy is always bad.' We seem to have been coming to the conclusion that in both marriage and celibacy there are at times, and in certain circumstances, both advantages and disadvantages, and that the same is true of the free price mechanism as compared with the controlled.

We can, I would suggest, now most usefully approach this wide subject from the demand side. In such an approach the old distinction between total real utilities and marginal utilities has special significance. Text-books contrast the marginal utilities of bread and cigars with their real utilities, but our line of thought can perhaps most usefully be restricted to food- and feeding-stuffs and ignore non-food items. In a freely working price mechanism it is, of course, the marginal utilities (expressed in terms of cash) to the marginal consumers, and not total real utilities, that are equated by prices. Changes at the margin are the main determinants of prices on the demand side.

Now the conditions under which governments have in the past paid attention to real total utilities and tried, in greater or less degree, to modify control of consumption (and related production, distribution, and time preferences) by marginal utilities can most usefully be listed under four main headings:

(*a*) Circumstances in which there were substantial reductions in the overall resources and supplies of a community below accustomed levels: e.g. the reduction of the total tonnage of food- and feeding-stuffs that the United Kingdom could import during war-time to one-half the normal tonnage: or the loss of much United Kingdom overseas capital during the last ten years: or the great droughts occasionally experienced in parts of India and China.

(*b*) When a substantial diversion of resources for special national ends was desired and comprehensive national planning was necessary to bring about such diversion: e.g. German and Russian planning before 1939, for military purposes, these being adjudged as of high national utility.

(*c*) Where and when sudden and substantial changes occurred in the total monetary value of consumer spending power, or in its distribution, or there were fears of such changes: e.g. unemployment in industrial populations and depressed farm-prices before the war, and inflation in war-time. These changed the levels and distributions of cash incomes and caused fears of further changes.

(*d*) Conditions under which there was an awakening of social conscience over malnutrition as related to income distribution; e.g. the malnutrition of the depressed industrial areas of this country before the war, and, on a wider scale, the malnutrition of the peasants of Russia and India, have raised many problems.

These four sets of conditions are sometimes closely related and, of course, wars and fears of war bring them about more quickly and effectively than any other changes. Autocratic systems based on privilege tend to create the fourth set of conditions.

Once these conditions have arisen, governments may or may not act wisely. But in conditions of scarcity or inflation they always act on the basis of two expectations, viz.:

(i) That although scarcity of goods will lead to inflation and redistribution of incomes, there will remain a body of spending power amongst certain classes of the population sufficient to keep prices, and production, of certain foodstuffs too high in relation to the adjudged real needs of all classes. In this country, for example, it was clear early in the war that we would have to reduce the grain used for egg production in order that we might have enough bread.

(ii) That inflation will upset the social structure unduly and, in some fixed-interest receiving countries, that inflation will adversely affect the balance of international payments expressed in terms of real values.

These expectations are as much fears as knowledge, because there can be no really reliable forecast of the extent of the inflation and redistribution of incomes that will take place or of the effects of this redistribution on the food consumption habits of different classes. But often it is precisely because the changes cannot be reliably forecast in quantitative terms that governments take over controls. Governments feel the need of a certain degree of predictability and assurance in economic affairs, and during periods of great changes they do not leave the driving of the economic machine to such complex and apparently unpredictable factors as marginal utilities and elasticities.

But whether governments, having taken over the driver's seat, drive well is another matter. The road may be bumpy and narrow and, although they have a licence—for a while at least—they may not have learnt the rudiments of the job of driving. They are often upset by front-seat passengers, or confused by back-seat drivers. I am not going into all that. Confucius summed it all up by saying that: 'Truth that takes no account of man isn't truth.' What was true of the Chinese twenty-four centuries ago is, it seems to me, true of the Americans to-day, and of the British too.

Even so, looking round the world at the present time, we may well conclude that, on the whole, the conditions listed have determined the pricing systems adopted, and not the pricing systems the conditions. In some countries in recent years the price mechanism may have affected basic conditions somewhat, but, in general, the basic conditions have been the determining factors.

On the other hand, these basic conditions, in so far as they are more than temporary and in so far as they occur more than seldom, need to be met by flexibility in the employment of resources and in the adjustments of consumption. Full regard should be paid to questions of marginality and all the smaller as well as the larger economic alternatives—national and international, industrial and agricultural. In the great majority of countries use of the free price mechanism is the only practicable way to bring this about satisfactorily. The choices are too many and too complex for most of the drivers of planned pricing mechanisms—or the back-seat drivers—to know where they should go, or, indeed, where they are going. But transition from planned to free pricing is difficult to carry out, and economic theories and analyses provide few useful guides as to timing, which, in government, is of the greatest importance. Such transition will generally entail substantial changes in monetary and taxation policies and, in the international field, if it is fully to bear fruit, it will entail also very substantial changes in most policies affecting import and export trades.

I would submit that Mr. Kirk's suggestion that planned systems require safety-valves clearly illustrates the desirability, from the international standpoint, of returning to reasonably flexible pricing systems. In the past the United Kingdom and certain countries in western Europe acted as stabilizers of the shorter-term changes in world markets in that we purchased more grain when crops in the major exporting countries were large, and less when they were small. Also our flexible prices led us to consume more livestock products when they were relatively cheap and less when they were relatively dear, so that we helped to counteract, for instance, cattle and sheep cycles and other conditions affecting livestock production in Argentina, Australia, and New Zealand. The types of price rigidity which we will have for some years to come will result not only in our losing the advantages of short-term flexibilities of consumption but also in rather seriously increasing short-time instabilities in some international markets.

In this connexion I should also like to submit that, while difficulties in balancing international payments may continue for many years to justify an expanded agriculture in the United Kingdom, the system of fixing agricultural prices, which Mr. Kirk has suggested is a permanent feature of United Kingdom policy, has been accepted by the general public here in reaction to the cheap food of the inter-war period without sufficient distinction of what I would call the three types of cheapness in food, viz. cheapness resulting from general monetary deflation, cheapness that reflects comparative economic advantages in conditions of production (e.g. those of Argentina as compared with the United Kingdom), and short-term cheapness which arises in years of good harvests or in certain phases of livestock cycles. It will be interesting to see, as the years go by, whether the long-term policy now accepted will continue to have support in changing circumstances. At the present time the high cost of food is not evident to a large section of the public because retail prices are kept low by subsidies.

This leads on, therefore, to consideration of how far 'two-handed' price systems, such as we have in this country, should be continued as a means of controlling the distribution of real incomes. Before the war such surveys as were made of food consumption in Great Britain suggested that 8 million people did not spend enough on food to enable them to buy reasonably adequate diets even if their food expenditures had been wisely made. Between 12 and 22 millions spent sufficient on food but not so wisely that they bought adequate diets. It has been calculated that, through arrangements for school meals, cheap milk, vitamin supplements, and in other ways benefiting particularly the 'vulnerable groups', we could achieve adequate nutrition for all classes at a direct annual subsidy cost of £100 million, at current basic prices for home-grown and imported foodstuffs. On the other hand, to correct the type of income distribution which we had during the mid-1930s, by making food as a whole so cheap that all groups were adequately nourished, would cost £600 million annually at current prices. Our annual government revenue from all taxes is currently £3,130 million. The main purpose of our 'two-handed' price system so far has been to help to control inflation, and we would be wrong to try to continue it for long mainly as a means of securing a certain type of income distribution. As Professor Heady has suggested, control of income distribution can better be achieved by other means.

Another reason why reasonably flexible prices are in the long run desirable becomes clear as soon as we consider quality variations and quality preferences, to which Professor Norton referred this morning. The range of economic alternatives in the use of production resources for consumer satisfaction in quality is often so complex that appropriate fixed premiums and discounts for specified grades are difficult to devise. In war-time many countries have rightly aimed to produce quantity rather than quality, but obviously we should try to return in due course to quality production for fuller consumer satisfaction. In the actual workings of free price mechanisms in peace-time there is, however, much that can be criticized. Such objective studies as I have seen suggest:

(*a*) that consumers have not had sufficient practical opportunities to learn what quality is and therefore cannot fully express their real quality preferences;

(*b*) that legal grades have been defined and used in practice with too little regard to what consumers' effective demands and preferences were or would be;

(*c*) that where there was fairly explicit expression by consumers and grading systems of quality preferences, net prices to farmers did not reflect such preferences nearly so well as retail prices did.

One final point seems worthy of emphasis at the present time. Neither flexible nor inflexible pricing mechanisms will in the long run be satisfactory and acceptable unless, over a large part of the world, monetary and financial policies are directed towards maintenance of a reasonably stable general price level for basic foodstuffs and raw materials *as a group*. But the international economic organizations so far established do not have achievement of such stability among their stated and specific responsibilities.

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It is not my intention to express any opinions on the opening paper, although I am not myself convinced of the advantages of the free market mechanism when compared with price fixing by the government. It is unsuited especially to the circumstances where there is short production (because of the low elasticity of supply) and it is unsuitable in circumstances of excess production (because of the low elasticity of demand).

Instead I would like to raise the question of the special kind of price policy which may be called discrimination or the multiple price system, which means having two or more price levels for the same product at the same time.

During the summer of 1946 the Finnish Cabinet decided in principle that, after the obligatory deliveries to the State had been fulfilled, any excess production could be sold on a free market at free prices for certain products. This decision has not yet been carried out because the detailed plan for its fulfilment prepared by a state committee was not approved in the Diet. Instead of this some products were released from price control, which I do not think was wise because, for one reason, it tended to provoke inflation.

The proposed multiple system might be said to be a legalizing of the black market. A similar system was in existence in Russia at least during the first five-year plan and during the Second World War. It would be interesting to know if it has been practised in any other country. It is evident that such a system is bound to cause great inequalities in the distribution of income among farmers and to raise very great difficulties in control. But it does make consumption a little more flexible without raising the cost of living to the poorest of the population. It would greatly stimulate production at least on the efficient farms and discourage wasteful consumption on these farms. It is evident also that the system would lose force when production had increased sufficiently to bring the prices of the excess supplies down, which is what actually happened in Russia after 1935. We can envisage a reverse system operating in a time when there is more production than the market can absorb. In fact a double price system was in use, for instance, in Denmark, where farmers had to sell unregistered pigs for prices which were only about half the price of the registered animals.

These and other experiments with multiple price systems should, in my view, be carefully studied as to their effects on production, consumption, and distribution of income.

J. COKE, *Department of Agriculture, Ottawa, Canada.*

There are just one or two comments I would like to make. Mr. Adair was partly right in what he said about our production of wheat in Canada. We had a big crop in 1923 and the price was relatively low. We have produced larger crops, particularly in 1928, when we got up to 544 million bushels, and in 1942 we again got up to 529 million bushels. The interesting thing to notice is that the crop of 1932 and the crop of 1923 were about equal in total production; but the price in 1923 was 65 cents a bushel and in 1932 was down to 34 cents a bushel. I am speaking of prices in the Prairie Provinces. I think that perhaps Mr. Adair would agree with me that the abandonment of farms in western Canada was not entirely due to the unfortunate price of wheat received for the 1923 crop. If you go back over the price series you will find that the index numbers of prices indicated that the fall began in 1921 and it continued until 1924, and then from 1924 to 1929 it was on a much higher level, so that there were many factors to be taken into consideration. That was a period of depression not only in western Canada but in many other parts of the world. It was the result of readjustments from war-time production policies that had been in vogue from 1914 to 1918.

In part, I think, Mr. Raeburn covered the other thing that I wanted to speak about. I was interested in what Mr. Adair said with regard to the auction system of selling livestock and the source of market information arising solely from reports obtained from auctioneers. In the United States, and Canada, too, the Government has stepped in and has made available information on prices in different markets at very frequent intervals. In our own case we have representatives of the Production Service in the Dominion Department of Agriculture located in each of the large central markets, and they obtain prices each day and report them to the Dominion Department of Agriculture, and each day those prices are broadcast through the Canadian Broadcasting Commission, so that farmers in the United States and Canada are assisted in obtaining information regarding prices, but it does indicate that governments have had to step in and perform certain services which were not likely to be performed by private enterprise and by the private purchasers. On this matter of quality of products, to which Mr. Raeburn referred, I think that the experience we gathered in the war when we had to blend grades was that there was very definite evidence that quality was not the important thing. We were interested in quantities of food rather than in qualities of food. In Canada we have developed quite an extensive system of grading agricultural products, and it has resulted, we think, in improvements in quality, but the exigencies of war forced us into the position that other grades had to be established in order to meet the administrative purposes of the Wartime Prices and Trade Board, so that I think there is no doubt that the interjection of the controlled system has had up to the present time the effect of offsetting to some extent the progress that had been made before these controls were introduced. Of course, so far as Canada is concerned, we have had very limited experience with fixed prices. In some measure we have fixed prices—the marketing of wheat under the Canadian Wheat Board—but when the war broke out we had to begin from scratch and undertake many things in the way of price fixation with which very few of us actually agreed. In fact, one of the chief administrators of the Wartime Prices and Trade Board in introducing the system of controlled prices said that it was something in which he did not personally believe, and that I think was general. We—with some reservations—tend to agree pretty largely with the policies that are developed in the United States. In this new country where individualism is still strong (and I am only expressing my own opinion about this) I cannot find any clear indication that in Canada we shall continue to control prices beyond a period of stability if and when that period arrives. I shall have something more to say about price supports, but it is certain just at this moment that the price support legislation that we have is confined to the transition period, whatever that may be. Any of the discussions that have followed the immediate post-war period have clearly indicated that dependence is to be placed upon free enterprise, which means that the price mechanism is to continue to indicate the requirements of the public.

It seems to me that in a contolled system it is very difficult to determine the requirements of the public. Personally I do not know how we can allow for developments, improvements, and the raising of the standard of living of all groups of people including perhaps new goods which satisfy wants which we may not even know about at the present time. I think that is a rather important point. Under a system of control the administrators would not be (nor are they likely to be) in a position to forecast the consumers' requirements, at least not under our conditions. I think that perhaps we ought to emphasize the fact that in some countries at any rate we have a good deal to learn, and we need a great deal more economic analysis as the basis for determining prices than most have had up to the present time. I think that it is essential if we are to have fixed prices that we should have more complete analysis of price and production and consumption data.

A. W. Ashby, *Agricultural Economics Research Institute, Oxford, England.*

If there are sides to the controversy in this session on the market mechanism I am afraid I am a free lance. My personal position is something like this: I spent a great part of my time in the ten years between 1923 and 1933 collecting evidence on the inefficiencies of the market mechanism, and putting up the best case I could for rational economic control of prices and markets. I was a member of the Linlithgow Committee on Agricultural Prices in 1923, which work I think everybody would agree initiated what has developed into a fairly comprehensive system of control of prices and markets in this country. I was also a member of the Commission which drew up the Milk Marketing Scheme for England and Wales in 1933, and if my economic training had had no other results than that of enabling me to assist in formulating that scheme it would have been fully justified. But at the present moment I feel that probably I ought to spend a good part of the next five years collecting the evidence of the inefficiency of price regulation. I would feel more like that if I did not remember a very old statute in this country which gave the judges instructions about evidence in criminal cases, the preamble of which said that the devil himself could not judge the mind of man. The minds of civil servants and politicians are particularly difficult to judge, and for the moment they control most of the important information.

When considering this subject of the market mechanism we have to approach it from the point of view that economic analysis and applied economics are two different things. In the process of economic analysis it is necessary to rule out moral and political considerations in order to get measurements of economic tendencies, economic reasoning, and economic conclusions clear and definite, but in the field of applied economics moral and political considerations certainly cannot be ruled out. Add to that one or two other issues. First, there is always duality in economic phenomena. What is cost to one person is always income to another party. There is also, the very great complexity of any economic system, particularly perhaps this modern system under which we live, and when we have unravelled the complexities there is the wholeness, the complete working together, of the economic system.

When we are thinking of the market mechanism we have to go with Professor Heady and say very definitely that the market mechanism deals not only with prices of commodities but with prices of labour, or wages, and prices or rent of land, and also, of course, the nature of other forms of income. In this country, and I think elsewhere, behind the attempt of at least modifying the effects of the market mechanism on prices and incomes, we had the purpose of developing social security. Ever since 1911 or thereabouts we have been trying to put bridges over social chasms; we have been trying to secure to every member and group in the community at least a minimum standard of life. And not least among those groups has been, and perhaps will be, the agricultural community. For my part I would say that in this century the market mechanism has not given the agricultural communities of the world, and particularly the progressive agricultural communities of the commercial world, anything like social equity or social justice. There are reasons for it that I could not possibly begin to discuss, but obviously Bressler this morning had something like it in mind when he said that we had to view the market mechanism both from the point of view of efficiency and from that of social justice.

I would like to say just a word or two about the opening paper in this session. Prices do, of course, control production, but there is behind that perhaps a suggestion that free or uncontrolled prices do control or have controlled production. But you know, if you are looking at the facts and not at the assumptions of economists, you will very quickly realize that it is a very long time since uncontrolled prices controlled or directed production. Unless I misunderstood the opening paper, it said that the steps taken to deal with agricultural prices in America had not really affected the working of the market mechanism. That came rather as a surprise to me. There have been rumours reaching this side of a high tariff, of an Agricultural Adjustment Administration, and parity and such things! We are often in danger of proceeding on the basis that what is customary, what is conventional, in economic devices is legitimate, and what is new is entirely illegitimate. We have to avoid that danger. If we are looking at actual conditions in this country, or I think in almost any country, we have to realize that right through recorded history all the economic groups which were close enough together in the area of settlement, or which could arrange adequate communication, have always been endeavouring to control methods of market operation, and to obtain whatever control was possible of their economic returns. That would be true of workers in guilds and trade unions, of industrial production groups in their trade associations and cartels, and true in this country in such bodies as the Proprietary Articles Association, which fixes wholesale and retail prices and margins. It is true almost throughout the economic system. But in this country in particular we have to remember that if we are looking not at farmers' prices but at their costs, there are to a very large extent controlled markets operating. We have a very close control of minimum wage-rates; our nitrogen supply is subject to a practically complete monopoly; our potash supply is subject to a complete monopoly; our superphosphate supply in the last seven years has been subject to an almost complete monopoly; and I would be inclined to say that there were close agreements between the manufacturers of proprietary compound feeding-stuffs. I would add that for many years there has also been close control of agricultural machinery supplies and prices by the Agricultural Engineers' Association. The main supplies which before the war were subject to free market conditions were grain feeding-stuffs or feeding-stuffs of grain origin. I know that as soon as one begins to admit that there is this sort of imperfect competition in the world, that there is regulation of prices on one side which become costs on the other side, it makes economic thinking much more difficult. At the same time we have to recognize the fact and we cannot afford to leave the agricultural producers with their enormous spread and variety of geographical conditions, and variety of economic and social conditions, to the mercy of the many groups on the other side of the markets who are able to regulate the conditions of sale and prices of their goods or services. That is important. Thinking back, I believe that was very largely my own starting-point in the work I have done in this field in the last twenty years.

If we are thinking of the *purposes* of market mechanism, I believe Professor Norton said this morning its object was the maximizing of the *production of goods* for which effective demand exists. But if you are thinking of the practical operation of a free-working market mechanism, its function is that of maximizing the production in which the *highest rates of profit* or the highest total amounts of profit are obtainable. Quite a different thing. Free market economics are entrepreneur economics, adventurers' economics. Perhaps the great, grave defect of a regulated market system is that it controls one set of adventurers without stimulating any others. The general objective of the economic system, which the market mechanism was supposed to regulate, is (or if it is not, it should be) that of maximizing the production of goods for human welfare. And here we are, perhaps, at the heart of our problem. We can leave consumers with free choice. To a certain extent we can put up with the inequalities of income and the inequalities of consuming power that came through the working of the market mechanism. We may maximize satisfactions, taking them in the total, but we may be leaving certain groups of people without even a minimum of real satisfactions. It is, perhaps, easy to say that the economic system should be adjusted or directed, as I think I have heard the terms to-day, to ensure supplies to meet public and domestic needs. But this is the heart of politics as well as of economics. When it is said that the economic system should be directed to the supply of public needs, that is a political statement.

We are all conversant with the pre-war slogan 'guns or butter'. We do not so easily recognize that in the administration of the economic system by public authorities similar choices are being made all the time, and that it is one of the easiest things in the world to confuse the aims and the needs of that super-personality, the State, with the real needs of its citizens. States grow like fighting-cocks and strut about the world crowing and quarrelling, and we, their citizens, serve their ends. But apart from that, nearly every State develops ideas, aims, and objects—of prestige, of power, of missions, or of destinies—which have little relationship to the fundamental human needs or the fundamental welfare of its citizens. If we could be sure that their regulation or operation of economic systems would be concerned fully, or even mainly, with the supply of goods and services which their citizens need for health and optimum efficiency, and then for the development of human capacities and their appropriate and desirable expression, then we might feel happy about the direction of economic systems by political states. And I think it is appropriate to say that those of us who have been concerned to help develop the control of market mechanisms and economic systems must watch very carefully the objects for which the controls are used. I say that at any rate for myself. And I am afraid that at this moment there is an element of undesirable objective in our new agricultural policy. I have not had time to study the prices carefully, but if the new prices represent real costs of production of the total products they are to cover, with only a fair margin of profit, it is extremely doubtful whether the new policy will add anything to national wealth. It may be that the people who chose this policy were choosing between two or more evils, and the alternative policies which might have been adopted would have had greater effects in restricting national production. But there is always a tendency when a particular group gets higher prices or higher earnings to regard that as a contribution to general or total wealth and total well-being. I very much doubt whether we are yet in a position in respect of techniques or organization to get the postulated increases in production on the basis of such costs as would make that increase in production a real addition to national wealth. But, as I say, the promoters of that policy may have been choosing between two or more evils, and they may have chosen the lesser.

There are just one or two little things in the statements of to-day to which I would like to refer. I thought I noticed a little merriment when Mr. Kirk mentioned imports and exports as the safety-valves to our price-regulation system. I would remind you that the export market has been used as a safety-valve for lots of other price-regulation systems. Many monopolies and cartels or near-monopolies have used or tried to use export markets for that very same purpose. Even farmers have complained of 'dumping'. Some other people, who have been concerned with imports, have used them as a safety-valve also.

Then I was rather shocked when Professor Nash told us that our government buying was safe because it was being done by commercial experts. It certainly is done by experts, but they are experts in the forms of commercial operation which existed before 1939. If they are experts in the new systems of public buying, they have learned by trial and error, and by some quite serious errors if I am any judge. They certainly knew one thing about the operation of a controlled price system; how to make things easy for their fellow commercial operators. We used to have a phrase in this country that the United States 'paid farmers not to produce pigs'. Since 1939 we have been paying livestock auctioneers not to sell livestock, and I do not know how much longer we will continue to do so. At any rate, consideration of such positions leads up to this general statement: that it is very much easier to transform a relatively free market into a controlled market if you more or less fix and freeze the positions of the various operators in that market. But, of course, that is not the way to get economic or social efficiency, nor is that the way in which to get the optimum results out of market controls. Indeed, one of the real questions about our system of price control, if we take it through from the farmer to the consumer, is how much more we are now paying for middleman services than we ought to be paying on any basis of necessary service. I am not able to tell you, because up to the present the full information has not been available, but I could illustrate. We have a fixed price to farmers for milk; we have a fixed price to consumers for milk; we have a fixed retailer's margin; we have fixed margins for collecting depots, for wholesale depots, for processing like pasteurizing and so forth. It was quite well known that one of the operators in the milk market in the south of England was able to collect the margin at the collection depots, to send either the invoices or the milk to its country wholesale depot and collect another margin, then send the milk into the town wholesale depot and get another margin, and get the pasteurizing allowances on top of that. It is an interesting story, and if the consumer's price did not cover these margins then the Treasury paid them. Those are some of the things we suffer. About five years ago I would have told you they were teething troubles, but I am not so sure at this stage.

Then Mr. Kirk said this morning that our system sets farmers free for production; it relieves them of the worry of finding markets and bargaining for prices. It does. It also sets them on the job of farming subsidies, and some of them are active and very successful in that line. I think if one were looking at the history of the fat cattle subsidy, in Scotland in particular, one of its effects was to make the Scottish farmers 'farm the subsidies', a good deal to the detriment of the really efficient system of beef production in Scotland. We do have to watch the cases in which farmers began not to farm land but to farm subsidies.

Now, as to the future, it seems to me that in the public systems of determining prices we do need the best data which we can get, as Mr. Kirk and Mr. Coke have said, but I am afraid that the data which we will get for price-fixing purposes are to some extent conventionalized. They are examined, I have no doubt, by both the Ministry of Food and the Ministry of Agriculture. But there are changes in the cost of production, or changes in the structure of the costs of the different commodities, and I wonder whether they are ever examined from the point of view of discovering the trends of farming efficiency, and from the point of view of developing and stimulating those trends. That is merely saying in another connexion what I said a moment ago: that there is a very great danger on the whole of freezing the existing systems.

Unless we can find ways and means of discovering trends in production efficiency on one side, and trends in consumers' demands and appreciations on the other side, we can never make this system fully effective. How will Planners know the trends of future demands? But before you try to give the answer to that: how did individuals or the collective trading groups operating the more free market mechanisms know what were the trends of future demands? Looking at the facts, it seems that under the relatively unregulated market the process of discovering the trends of consumers' demands was a slow and a clumsy one. It was one of trial and error, and in its complete working out it imposed considerable suffering on those people who were latest in discovering the trends of demand or who were less able to adapt themselves to new conditions. I could not attempt to give you an immediate answer to the question: How will Planners know or follow the trend of future demands? But I would say this, that if in this country over a number of years, when we have got through this immediate crisis, we are going to work for optimum nutrition on a low-cost basis, that is, largely on cereals and potatoes and milk, we are going to upset the world's agriculture very considerably, and we are going to reduce the real satisfactions of consumers. Man does not live by bread alone or even by optimum nutrition. The secondary, even the aesthetic, satisfactions of eating are important. A good meal should satisfy one, not only in respect of hunger and essential nutritive qualities, but in its colours, its flavours, and its aromas. The aesthetic satisfaction of eating is quite as justifiable as that of listening to one of Beethoven's sonatas and, what is much more important, is capable of a far wider appreciation.

There have been great experiments in this country. We have been making them under very difficult conditions. We had to improvise a lot of the machinery, a lot of the devices, and I think I would be justified in saying that the discovery of some of the devices for dealing with economic returns to farming has given us real economic knowledge which we can use on other occasions or for other purposes. Our danger is that we may freeze and fix existing systems of farming and, moreover, freeze and fix existing systems of distribution.

During the war period we were obliged to pay special attention to short-term needs and ways of meeting them. Now, while we still have to pay some attention to short-term needs, we ought also to consider conditions of long-run efficiency at the lowest practical physical costs and seek to foster the trends in those directions.