CHAPTER 6

Food and Agriculture

AT THE BEGINNING OF 1974 it was expected that tight food supplies would boost retail food prices in the early months of the year, but domestic and world food production was also expected to expand later in the year. Barring unfavorable weather, a significant increase in American grain production was anticipated, which would improve the food outlook, enable some rebuilding of grain inventories, and help remove the upward pressure on prices in the second half of 1974.

Food prices, as expected, increased sharply in the early months, rising at an annual rate of 20 percent in the first quarter. The predicted leveling off began in the spring and continued until midsummer, but it was short-lived. Unfortunately, the anticipated increase in grain production did not materialize. Crop production was severely reduced in the major grain-producing areas of the United States by poor weather. Instead of the bumper harvests that had been forecast, crop production as a whole suffered the largest setback in nearly 40 years. Instead of substantially slower increases in the second half of 1974, retail food prices advanced at a 13.4 percent annual rate between June and December 1974. During all of 1974, food prices rose 12.2 percent, the same as all consumer prices.

Two other developments had a significant impact on retail food prices last year. First were the exceptionally large increases in charges for off-farm food processing and distribution in the first half of the year, partly because margins had lagged behind increasing costs during the period of price controls. Estimates of the spreads between farm and retail prices for farm foods consumed at home indicate that they rose at a 27 percent annual rate from the final quarter of 1973 to the second quarter of 1974. The second development was the extremely steep rise in sugar prices. Nearly half of U.S. sugar supplies are imported, and the price rise was mainly triggered by events outside this country. Wholesale prices of raw sugar jumped from 11 cents per pound at the start of 1974 to a peak exceeding 60 cents per pound in late November. This increase alone would have prolonged the upward pressures on retail food prices in the second half of 1974, even without the weather-induced setbacks in crop production.

At the end of 1974 the food supply situation was as tight as a year earlier, and the prospects for 1975 were uncertain because the full impact of reduced

grain and feedstuff output was not yet reflected in supplies of animal products. Although further increases in retail food prices were in prospect, reduced economic activity appeared to be dampening the demand for food. Indeed, by year-end, wholesale prices of farm products had actually fallen below those of a year earlier. Crop prices were up substantially; but livestock prices declined nearly 15 percent compared to the previous year.

DEVELOPMENTS IN 1974

Last year's events have demonstrated again the benefits to our economy and the world from good American harvests. Crop setbacks have affected the course of food prices, imposed stresses on the livestock industry, limited the capacity of the United States to provide food aid to developing countries, and prompted close monitoring and some limitations on commercial export sales. From the standpoint of the agricultural economy, 1974 was an uneven year. On the favorable side were these developments:

Foreign Demand

Foreign demand for agricultural products continued strong. The value of exports in fiscal 1974 reached a new high of $21.3 billion, more than double the value only 2 years earlier. In the current fiscal year the volume of exports is expected to decline, primarily because of reduced crop supplies, but the associated higher prices should maintain the value of shipments near the previous year's record. The increasing role of foreign markets has become central to policy matters concerning food and agriculture.

Farm Income

Total farm income remained high in 1974. Preliminary estimates indicate that aggregate net farm income fell some 15 percent short of the record $32.2 billion in 1973, but was nonetheless 50 percent higher than in 1972. In the past 3 years as a whole, returns to farm resources have been sufficiently high to encourage the expansion of productive potential, but the year-to-year changes in incomes emphasize the increased uncertainty of earnings, which is itself a deterrent to additional investment and production.

Food Consumption

Food demand was strong despite higher prices, and preliminary estimates indicate that consumption per person rose slightly above 1973. Per capita consumption of all animal products advanced 2.5 percent, reflecting the large increase in domestic production of red meats and poultry. Although meat production was down early in the year, from April through October it averaged a full 10 percent above the 1974 average. In contrast to meats, consumption of dairy products declined 2 percent for the year; retail prices rose sharply as the year began; later the increased supplies of other animal products and lower consumer income reduced demand. Despite their significance, the grain crop setbacks had little direct impact on the quantity of food consumed in 1974.

Three significant adverse developments last year will have consequences in 1975 and beyond:

Costs of Production

The costs of production inputs purchased from the nonfarm economy, particularly fertilizer, rose very sharply. The impact of general inflation on the agricultural economy has increased, along with the increased importance of nonfarm purchases for farm production. In 1974 the impact was particularly large: the cost index for purchased inputs increased 18 percent in 1974. Fertilizer prices were up more than 75 percent, partly in response to rising demand and partly because of a series of supply bottlenecks. The future availability of natural gas to produce fertilizer continues to be uncertain. The major significance of the steep rise in farm costs is that they are unlikely to decline, or they will do so only with a lag, if and when there is a significant decline in farm prices. As a consequence, the total crop-producing sector, which has enjoyed an extended period of increasing prices and returns, faces a possible deterioration in its current profitability at some point in the future.

Livestock Sector

The livestock-producing sector is undergoing large adjustments because of two related factors. First, the U.S. feed grain supply for 1974–75 is estimated to be the lowest since 1957, while the demand for feed grains is substantially greater. Supplies of other feedstuffs, such as oilseed meals, are also down. The situation is especially serious for hog and poultry producers who have little flexibility in feeding practices. Both are planning significant production cutbacks, and pork production is expected to be the lowest in many years. High feed costs have also reduced the number of cattle in feedlots, where feeding margins have been depressed for over a year. At latest count, cattle in feedlots were about one-fourth fewer than a year earlier, and prices of feeder cattle have consequently been driven down sharply.

The reduced profitability of cattle herds has, in turn, intensified a more fundamental adjustment problem in the cattle industry. A steady and large buildup in cattle numbers has been taking place since the early 1960's. Incentives to expand herds were especially great in recent years, and the buildup has averaged 3.2 percent annually from 1969 to 1974. In contrast to extremely tight beef supplies in 1973, cattle herds appear to be overexpanded under today's conditions. If herds expand more slowly, or if they should be cut back significantly, extra supplies of beef will reach the market in addition to the output of the herd itself. Total beef production would consequently increase markedly, even though the weight at which the animals are marketed declines. For instance, if the 1975 expansion in cattle inventories is reduced, as expected, to 2.4 percent from the 3.2 percent average rate of the past 5 years, beef production would increase 6.5 percent. A reduction to zero in the expansion of cattle inventories could mean

an increase in beef output by 15 percent. A slower rate of expansion in cattle inventories was already evident in 1974. Despite reduced marketing of cattle from feedlots, total marketings were up 9.0 percent in 1974; and the proportion of cows in total slaughter was substantially higher by year-end.

The American situation is replicated in many other beef-exporting nations as well as in traditional importing countries. The European Community, Canada, and Japan instituted embargoes or restraints on meat imports during 1974. Stocks of beef in the European Community, acquired to support prices to producers, are considered excessive. Australia has a very large potential supply of meat. During 1974, cattle were withheld from slaughter because of favorable pasture conditions in Australia, and also because of low meat prices and restricted markets outside Australia. American meat imports during 1974 fell rather sharply, even though they were not subject to quantitative restrictions. However, at the start of 1975 the Department of Agriculture announced plans to negotiate agreements with supplying countries designed to limit imports to about the same quantities as in 1974.

The appearance of a worldwide excess supply of beef, along with extremely large advances in food prices, was one of the paradoxes of 1974. Countries concerned with inflation were at the same time restricting meat imports to shield their beef producers. At year-end much of the oversupply had not yet been marketed and will be available in 1975 to offset reduced supplies of pork and poultry, which are more dependent than beef on grains and other feedstuffs.

Poor Crops

The poor crops in the United States during 1974 will have repercussions not only on our own economy but throughout the world. The 1974–75 world production of all grains is estimated to be down 5.0 percent from the previous year, a considerably larger drop than the 1.3 percent decline in 1972. Unlike those of 1972, the setbacks were mainly confined to the United States, and the losses were concentrated in feed grains rather than food grains.

In the spring of 1974 there seemed to be good reason to expect excellent U.S. grain production even if weather conditions were to be somewhat below average. Much field preparation had been completed the previous fall. Surveys showed that farmers were planning increases in their plantings because of favorable prices and the removal of Government acreage diversion programs. Fertilizer supplies were tight, but they exceeded the previous year; and efforts were under way to minimize bottlenecks in production and distribution. Then wet weather delayed spring plantings—which itself slightly reduced yields and made crops more vulnerable to early frosts—and prevented some fields from being planted at all. But the summer's dry and hot weather was the major setback. Preliminary official estimates of the

feed grain crop fell from 234 million (short) tons in March to 215 million tons in July, and then to 175 million tons in August, when the first survey based on actual yield estimates became available. Significant though smaller reductions occurred for wheat (from 2.1 billion bushels in March to 1.8 billion bushels in August) and soybeans (from 1.5 billion bushels in March to 1.3 billion bushels in August). Severe frosts in September and early October further damaged the feed grain and soybean crops.

This development created several problems. First, it reversed the expectation of price relief from improving food supply in the second half of 1974. Much of the adverse impact on food supplies will occur in 1975, however, as producers of livestock, poultry, and dairy products cut back their output in response to higher feed costs.

For this reason, it is important that the severe adjustments expected in the United States not be worsened by policies in other countries. Few countries permit agricultural markets to operate in an unrestricted way. If international markets were less restricted, however, the U.S. crop shortfall would result in higher feed costs to livestock producers abroad and in reduced feed consumption. Moreover, grain stocks would not be built up under such tight supply conditions. Consultations based on these principles were held with Japan, the European Community, the Soviet Union, and several other countries, the aim being to seek cooperation so that these countries would attempt neither to build stocks this crop year nor to insulate their economies from the adjustments to tight world grain supplies.

Further deterioration of U.S. crops in the fall of 1974, setbacks in other key countries, and speculation that the United States might impose export controls resulted in an upsurge of export orders reported under the Department of Agriculture's export monitoring system. Although pressures to control exports were intense, formal controls were resisted because the previous year's experience with soybean export controls demonstrated the serious impact of such a policy on our foreign customers. The prudent course consistent with international and domestic objectives seemed to be minimum Government interference with the flow of exports.

The Soviet Union, which had not been expected to purchase substantial quantities of grain from the United States, entered the market for larger quantities than had been anticipated. When this became evident, the Soviet sales were at first canceled; subsequently officials of both countries agreed that U.S.S.R. purchases would be limited to 1.0 million tons of corn and 1.2 million tons of wheat from the 1974 crops. A voluntary daily reporting system for larger orders was soon established under which approval is required before orders can be finalized. A number of other countries, including the European Community, have been requested to restrain their imports voluntarily during the current crop year.

Another related consequence of the crop shortfall has been the emergence, particularly in connection with the World Food Conference, of extraordinary pressures to increase substantially the volume of food aid

shipments under Public Law 480. The U.S. crop shortfall placed two new strains on the capacity to supply food aid. It first raised the opportunity costs of any given quantity of food aid, since any incremental exports would only aggrevate the adjustments required in the United States. It also raised the budgetary costs of any given volume of food aid during a period of concerted effort to hold down Federal expenditures. At the same time, however, the immediate benefits to recipient countries from more food aid would be significant. The great difficulties in resolving the conflicting objectives have shown the pitfalls in existing food aid programs, which have been a by-product of U.S. surplus disposal programs and closely tied to supply conditions for particular commodities.

LONG-TERM CHANGES IN AGRICULTURE

American agriculture finds itself in the mid-1970's at a watershed. A number of economic forces have converged to change substantially the economic environment in which the agricultural sector operates. Some of these forces are new, while others have been operating for some time to change the economic conditions faced by agriculture.

Agricultural policy underwent considerable evolution during the 1960's. In the early years of the decade agriculture was characterized by excess productive capacity and burdensome stocks that were primarily the consequence of price support programs. Crop prices were sustained in nominal terms during the decade, but rising prices in the nonfarm sector meant a downward drift in real prices. Agricultural production was brought into better balance with demand by the late 1960's, although this result was achieved in part through land retirement programs and direct cash payments to producers that reached nearly $4.0 billion per year.

Both the economic environment and the conditions in U.S. agriculture have since undergone substantial change. Excess capacity has declined, crop reserves have been drawn down, the world agricultural situation seems to have worsened, and agricultural products again appear to be subject to the unstable price conditions of an earlier era.

THE DECLINE IN EXCESS CAPACITY

Four major developments suggest that the excess capacity which characterized U.S. agriculture during much of the post-World War II period has declined. First, there appears to have been a decline in the growth rate of productivity of the combined factors used in farm production. Second, after many decades of excess labor in agriculture, the supply of labor appears to be moving into balance with demand. Third, what was believed to be a large acreage reserve withheld from production turned out to be in part illusory. Finally, there has been an increase in the demand for U.S. agricultural output, partly because of the two devaluations of the dollar and a shift to floating exchange rates, which have improved the competitive position of U.S. farm products in foreign markets.

Changing Sources of Growth

Contrary to the common notion that agriculture is a natural resource-based industry, the expansion of U.S. agricultural output since the 1920's has borne little relation to the total stock of physical resources used in agriculture. Major changes have taken place, however, in the proportions in which resources are used. For example, the stock of land in agriculture has remained relatively stable, while labor has moved out of agriculture at a rapid rate; the use of capital in the form of mechanization has increased, as has the use of modern inputs such as fertilizers and pesticides. Agricultural output has become progressively more dependent on resources produced in the nonfarm sector, and less dependent on land and labor.

Although the total stock of measured inputs has remained relatively stable, increasing productivity permitted fairly steady and sometimes burdensome increases in output. The source of improving productivity has been a subject of much debate. Public and private investments in research and development have led to better plant varieties, production techniques, and animal husbandry, and have improved the productivity of machinery, fertilizer, and other supplies purchased from the nonfarm sector. Better methods of production in the nonfarm sector have reduced the relative price of these inputs, causing them to be substituted for land and labor. Education has added greatly to the quality of labor and management in agriculture.

The changes in resource use and other indexes for the agricultural sector are shown in Table 41. The index of farm real estate, which reflects a charge for grazing fees and the use of land and service buildings, declined about 6 percent from 1950 to 1969–71. (Total land in farms remained virtually constant from 1940 to 1969, and land used for crops declined 10 percent.) But the application of fertilizer—an important land substitute—has increased rapidly, partly because successive technological breakthroughs in the fertilizer industry reduced fertilizer prices relative to the prices of output and

TABLE 41.—*Farm output and productivity, selected years, 1940–71*

[1967=100]

Category	1940	1950	1960	1969–71 average
Selected inputs:				
Labor	288	214	143	92
Farm real estate	102	104	99	98
Mechanical power and machinery	41	83	95	102
Agricultural chemicals [1]	13	30	50	113
Feed, seed, and livestock purchases	43	64	84	107
Taxes and interest	68	77	87	105
Miscellaneous	84	93	109	106
Total input	97	101	98	101
Total output	60	74	91	105
Productivity [2]	62	73	93	103
Number of farms	201	179	125	93

[1] Fertilizer, lime, and pesticides.
[2] Farm output per unit of total input.

Source: Department of Agriculture.

other factors of production. The use of fertilizer had increased 129 percent from 1940 to 1950. This rise was from a relatively low base, but fertilizer use increased 69 percent from 1950 to 1960, and another 113 percent during the 1960's.

The use of labor has declined fairly steadily from 1940 through 1969–71. A reduction of 26 percent in the 1940's was followed by a 33 percent reduction in the 1950's and an additional 36 percent reduction in the 1960's. However, the quality of the labor force has improved substantially. The reduction in the measured labor force therefore overstates the true decline taking place in labor use as skills and knowledge become an increasingly important component of the total.

The decline in the labor input has been offset at least in part by mechanization. Mechanical power and machinery in Table 41 represent depreciation and a use charge on the mechanical inputs, expenditures for maintenance, and fuel and energy. The most rapid increase in this category took place in the 1940's (102 percent) and was partly a war-induced phenomenon that resulted from labor mobilization for the war effort. The increase was substantially lower in the 1950's (14 percent) and still lower in the 1960's (7 percent). However, the measurement of this input probably does not fully capture the improvements in the efficiency of machinery in the last two decades, and hence understates the true increase.

Associated with these large changes in resource proportions have been a large and persistent decline in the number of farms and fairly steady advances in productivity, as it is conventionally measured. Total factor productivity has risen over each of the past three decades. It grew most rapidly during the 1950's, showing an increase of 27 percent compared to an increase of 18 percent in the 1940's and of only 11 percent in the 1960's. The extent to which the dramatic decline in productivity growth in the 1960's represents a real and enduring decline is not clear, but the answer is of critical importance to the future trends of U.S. and world food supply. Growth in productivity has been an important source of output growth in the past. It has enabled the United States to be one of the best-fed countries in the world, yet provide substantial food aid to other countries and simultaneously increase commercial exports. At the same time it has enabled the agricultural sector to supply large quantities of labor to an expanding economy.

The Agricultural Labor Market

A major share of the so-called farm problem in the last 20 to 25 years was a consequence of excess labor in the agricultural sector. Historically, the rapid increase in farm productivity, compared to other sectors, and the slower relative increase in the demand for farm products have required a transfer of labor to the nonfarm sector. Farm incomes, of course, lag behind nonfarm incomes as long as transfers are continuing. For all practical purposes, however, this process appears to be nearing an end.

The Nation's farm population reached a peak of 32 million in the depression years of the early 1930's. Since that time the trend has been

downward, except for a brief period following World War II, with steep declines for each decade starting in 1940 (Table 42). This decline, which took place at a rate of 4.6 percent per year during the 1960's, has slowed substantially since 1970 to an average of only 1.2 percent a year, marking the first extended period since the late 1940's that the reduction of the farm population has slowed.

TABLE 42.—*Farm population and farm employment, selected years, 1930–74*

Year	Farm population [1]		Farm employment	
	Number (thousands)	Percent change (annual rate)[2]	Number (thousands)	Percent change (annual rate)[2]
1930	30,529		12,497	
1940	30,547	0.0	10,979	—1.3
1950	23,048	—2.8	9,926	—1.0
1960	15,635	—3.8	7,057	—3.4
1970	9,712	—4.6	4,523	—4.4
1974	9,264	—1.2	4,294	—1.3

[1] Farm population includes people residing on units officially defined as farms. Since many of these "farms" are little more than rural residences for people attached to urban labor markets, the data overstate the number of people actually engaged in agricultural production.
[2] Annual rate of change from preceding year shown.

Source: Department of Agriculture.

Farm employment declined during the 1950's and 1960's at about the same rate as farm population, and has also declined at a much slower rate since 1970. Another indication of the increased balance between the farm and nonfarm labor markets is that the rise between 1970 and 1973 in median family income (measured in 1973 dollars) has been much more rapid among farm families, amounting to about 30 percent, compared to an increase of about 6 percent for nonfarm families in the same period. In 1970 the median income of farm families was about $3,700 less than that of nonfarm families; by 1973 the differential had been reduced to about $2,100.

The transfer of labor from agriculture to the nonfarm sector has been an important source of growth for the economy at large. Even if the aggregate farm population and labor force continue to decline, the movement of labor from the farm sector will probably make much smaller net contributions to a growing nonfarm labor force in the future. Average annual net outmigration during the 1950's and 1960's was 741,000 and 592,000 respectively, with a much larger gross outflow because of a considerable reverse movement. From 1970 to 1974, however, the average net outmigration was only slightly over 110,000 per year. The population base in agriculture is no longer large enough to provide outmigrants on the same scale as in the past, even with significant mechanical innovations and reorganizations within agriculture.

The problem of low relative incomes in agriculture has been the justification for many of the farm policy measures over the last 40 years. If the agricultural labor market is indeed near equilibrium, low farm incomes

should play a smaller role in shaping future farm policy. Certain groups in agriculture will continue to be disadvantaged, however, because of continuing regional imbalances and because certain components of the farm labor force do not have the skills to compete in nonfarm labor markets.

An Illusory Land Reserve

It was believed until recently that about one-sixth of the Nation's cropland was being withheld from production by Government programs and constituted reserve capacity. When these acres were released in 1973 and 1974, however, it became clear that many of them were unprofitable to bring back into production, even at higher prices. Crop acreage rose by only 37 million acres between 1972 and 1974, even though about 60 million acres were released from acreage controls. Thus, the actual excess capacity from this source was not nearly as large as the data suggested.

Undoubtedly the United States has additional land that could be brought into production. Substantial new investments will often be required, however, and such investments are unlikely to be made unless prices remain at higher levels than in the past. Moreover, for the most part such land will be marginal to that now in production, with the result that its contribution to output expansion will be less than that of land now being used.

Devaluation of the Dollar

American agriculture has benefited from an unprecedented export boom in the 1970's. The volume of exports averaged 39 percent higher in the 1972–74 period than in the previous 3 years (fiscal year basis). Part of this increased demand may be temporary. Demand for U.S. feed grains and soybeans was growing rapidly in 1972 and 1973 because of the rapid and simultaneous economic growth in Western Europe and Japan, and the consequent upgrading of their diets with more meat products. In addition, world output of grains declined in 1972 for the first time in 9 years. The bulk of the decline was outside of the United States; this situation, along with a shift in Soviet policy to maintain food consumption when output in their own agricultural sector declined, generated additional demand for U.S. exports.

Part of the increase in foreign demand for U.S. agricultural products was also due to the devaluations of the dollar in late 1971 and early 1973 and the shift to a system of floating exchange rates. Between May 1971 and the end of 1974 the dollar fell 13 percent relative to other currencies weighted by trade in our agricultural products.

The devaluations produced a once-and-for-all increase in the foreign demand for U.S. exports, although the effect is spread over several years. In addition, they caused imports of agricultural products—which grew substantially during the 1960's and early 1970's—to become less competitive in the U.S. market. The combination of greater foreign demand for U.S. agricultural output and a decline in competitive imports contributed to an increase in demand for U.S. products.

The depreciation of the dollar ended a period during which the overvaluation had reduced exports and kept domestic prices of agricultural products lower than they otherwise would have been (an effect that was offset at least in part by price supports, export subsidies, and other programs). During this period the United States sacrificed from a trade standpoint part of the comparative advantage that U.S. technological superiority in agriculture would have given it in world markets. Reduced exports also meant lower prices for U.S. consumers. The overvaluation of the dollar also intensified the normal need for resource adjustment that rapid increases in agricultural productivity had caused, and thereby contributed to the relatively low returns to resources employed in agriculture.

Owners of agricultural resources in the aggregate have benefited from the devaluation just as they had been penalized by the overvaluation, but the benefits have not been uniform. Grain producers have received significantly higher prices in the short term, but livestock producers have suffered because the prices of feedstuffs have increased. Once the increased demand has worked through the system, a new equilibrium will be established with higher prices for both grains and livestock products. The effect on factor returns will be determined largely by their relative elasticity of supply. The presumption is that the bulk of the benefits will be reflected in higher land values and larger returns to managerial skills, both of which are quite inelastic in supply.

Prices of grains are currently at relatively high levels, in part because of the shortfall in production of grains in the United States. As output recovers, prices should decline, but not to their pre-1972 levels unless there are other basic changes in demand and supply. Owners of agricultural resources will receive a larger share of the benefits of technical change in U.S. agriculture than they have in the past, as will foreign consumers. U.S. consumers, on the other hand, will receive a smaller share. The proportion of U.S. output that is exported should be larger than before the devaluations, and the price of food to U.S. consumers will be more heavily influenced by supply-demand conditions abroad.

A CHANGING WORLD AGRICULTURE

The capacity of the world to feed a growing population adequately has been a continuing concern. Beginning in the late 1960's, the world food situation began to improve markedly, and by 1971 considerable optimism was felt around the world. The so-called "Green Revolution" of miracle wheat and rice varieties and the greater use of fertilizer had increased the output of food grains, especially in Asia. Countries that had become traditional importers suddenly became self-sufficient or net exporters. India was even able to accumulate sizable reserves.

In sharp contrast, much has been made during this past year about a possible Malthusian crisis in the less developed countries. Population is growing at quite high rates in these countries and has done so since World

War II. Unless the growth of population slows, many question whether the necessary large increases in agricultural output can be achieved in the future. The upsurge in commodity prices these last 2 years and the famine conditions in the African Sahel and in South Asia bolster these fears.

This concern may be exaggerated, although there are a number of troublesome developments in world agriculture. One is a decline of approximately one-fourth in the growth rate of world agricultural production (excluding Communist Asia), from 3.0 percent in 1964–68 to 2.3 percent in 1968–73, or little more than the growth rate in the world's population. The decline is largely accounted for by a slowing of the growth of production in the developed countries, however, and was the result of explicit policies designed to bring the agricultural sectors of these countries into balance prior to 1973. Output increased at a rate of only 2.0 percent per year in the developed countries in the more recent period, a decline of one-third from their growth rate of 3.0 percent in 1964–68. In the less developed countries, on the other hand, where population pressures are greatest, output increased at 2.6 percent in the earlier period compared to 2.8 percent in the latter.

Viewed from a longer perspective, world agriculture has performed reasonably well. Prior to 1972 there had been 20 years of uninterrupted increases in output; as a result a population that was growing at unprecedented rates by historical standards was provided a small but significant increase in consumption per capita. During 1954–73 per capita food production in the developed countries increased about 1.8 percent annually. In the less developed countries, where the population was increasing most rapidly, the increase per capita was smaller, about 0.4 percent per year, but still significant.

Despite this relative success in feeding a larger population with increasing quantities of food, total agricultural output declined in 1972 after two decades of steady growth, and preliminary data for 1974 indicate no increase over 1973. Some attribute this to a fundamental change in the weather. Although climatic conditions may have been favorable in recent decades, 3 years are not enough to permit final conclusions about a shift in the weather. Whether output growth returns to sustained rates of increase will be a critical issue in the years ahead.

A second change is a reduction in the supply of new land that can be brought into production, at least at supply prices of the past. This fact is especially important for the developing countries, where the increases in output have been largely the result of increases in the area of land under cultivation. Grain yields in the developing regions, for example, were only 32 percent above the 1948–52 level in 1966–70. Over the same period, grain yields had increased by 63 percent in the industrial regions, with very little increase in land under cultivation. In countries like India, moreover, the land resource has been damaged by water and wind. Much land around the world can clearly be brought into production, but to do so requires investments in roads, transportation, land reclamation, and drainage.

The emerging land constraint need not limit increases in output, as the experience of the United States and other developed countries demonstrates. But the ability to achieve more rapid increases in yields will require the development and adoption of improved techniques of production and abundant quantities of modern agricultural inputs. This, in turn, will require greatly expanded public and private investments in research and development, as well as enlarged production capacity to provide adequate supplies of fertilizers. With rising costs of energy, at least nitrogen fertilizer is likely to be more expensive than in the past.

A third change in world agriculture is the increased dependence on the United States as a supplier of agricultural products (Table 43). As recently as the late 1930's, North Africa, the Middle East, and Asia were net exporters of grains. Now these regions are consistently net importers. Similar trends elsewhere have made the United States the dominant exporter of grains, responsible for more than 50 percent of the total.

A number of recent studies have projected a growing imbalance in food supplies between the developed and the developing economies. Unless production accelerates, the developing countries are expected to have growing food deficits well into the 1980's. The developed countries, on the other hand, are expected to have growing surpluses.

The post-World War II increase in overall trade has largely been among the developed countries, with a decline in the share of trade between the developed and developing countries. This trend must be reversed if the projected imbalance is to be accommodated. The developed countries may have to import more raw materials and industrial products from the developing countries in exchange for agricultural products.

TABLE 43.—*World net imports and exports of grain, selected periods, 1934–73*

[Millions of metric tons; annual averages]

Country	Net imports (—) or net exports				
	1934–38	1948–52	1960–62[1]	1969–71[1]	1972–73[1]
Developed countries:					
United States	0.5	14.0	32.8	39.8	73.6
Canada	4.8	6.6	9.7	14.8	14.8
South Africa	.3	.0	2.1	2.5	3.1
Oceania	2.8	3.7	6.6	10.6	8.9
Western Europe	−23.8	−22.5	−25.6	−21.4	−21.0
Japan	−1.9	−2.3	−5.3	−14.4	−18.5
Centrally planned countries:					
U.S.S.R. and Eastern Europe	4.7	2.7	.5	−3.6	−14.2
China	−1.0	−.4	−3.6	−3.1	−6.3
Developing countries:					
Latin America	9.0	2.1	.8	3.2	.6
North Africa and Middle East	1.0	−.1	−4.6	−9.2	−13.7
Asia	2.4	−3.3	−5.6	−11.0	−14.8

[1] Fiscal years.

Note.—Grain includes wheat, milled rice, corn, rye, barley, oats, sorghum, and millet.

Source: Department of Agriculture, Economic Research Service.

GREATER PRICE INSTABILITY

A number of factors suggest that the U.S. food and agriculture sector has entered a period of greater price instability. The large stocks of agricultural products in Government hands, which reflected the excess capacity at prevailing prices, were largely liquidated during 1972 and 1973. These stocks provided a stabilizing influence on the market, since they offered a means of dampening and offsetting year-to-year fluctuations in production both in the United States and abroad. Similarly, a land reserve, withheld from production during the late 1950's and 1960's, provided another means of offsetting changing conditions of demand and supply. Without these cushions, agricultural prices are more subject to changing market conditions both at home and abroad. Moreover, the expectation that a larger share of U.S. output will go to export markets will further expose the agricultural sector to the vagaries of world markets.

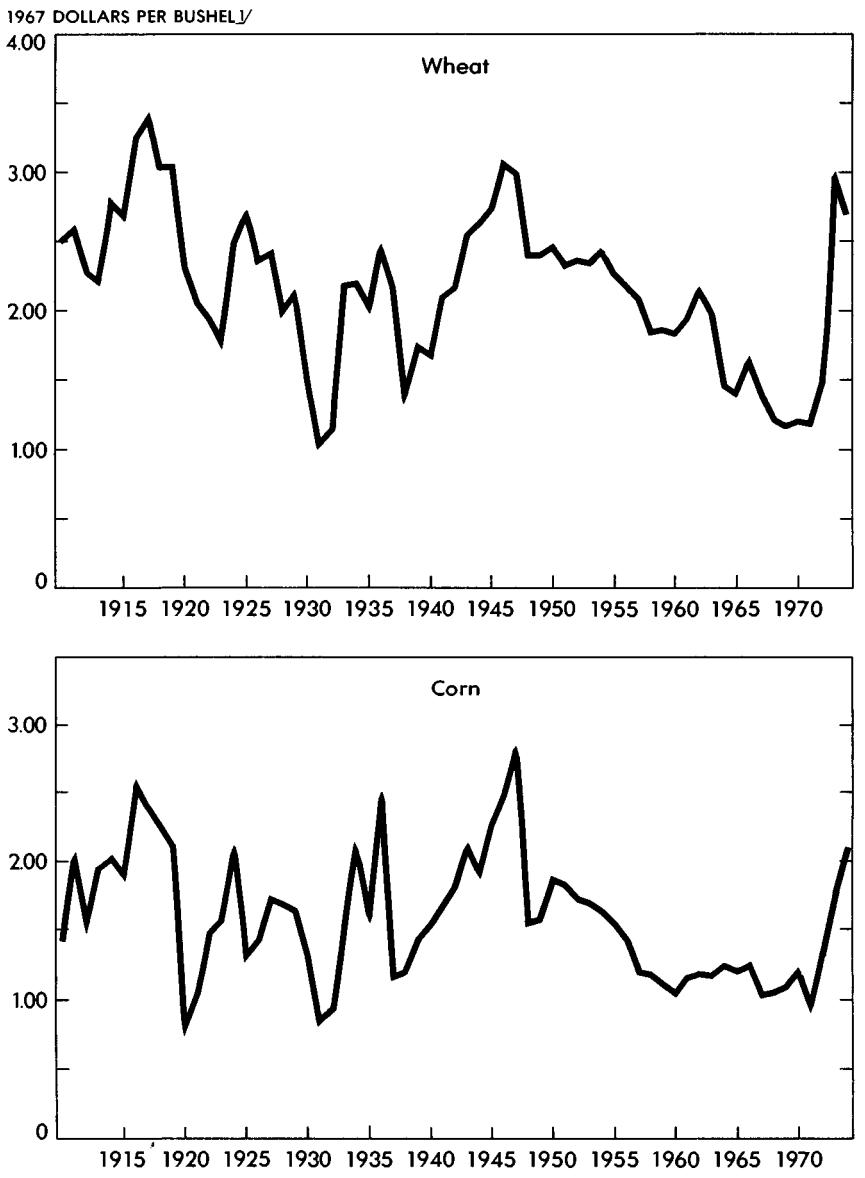
A number of conditions have intensified the effects in the United States of fluctuations in world agriculture. The domestic agricultural policies of the European Community and Japan inhibit the adjustments that can take place in their agricultural markets. Consequently, the burden of adjustment to changing conditions of demand and supply is pushed onto the United States and other exporting countries. In addition, the growing involvement of the U.S.S.R. in world trade in recent years has transmitted to world markets the shocks stemming from fluctuations in the relatively unstable agricultural sector of that country. Some 80 percent of the year-to-year fluctuations in the world wheat trade since 1960 have been accounted for by swings in Soviet wheat trade.

Charts 9 and 10 provide a historical perspective of the price instability problem for four important agricultural products. Actual prices have been deflated by the wholesale price index (1967=100) for all commodities in order to express them in real terms. Compared to prices before 1950, agricultural prices were much less volatile from 1950 to 1971, when there were larger reserves in the form of excess productive capacity and actual stocks of grain. The extent to which the price variability declined from 1910–49 to 1950–71 is shown in Table 44 for six important products. Measures of variability (variance and coefficient of variation) declined in every case except the coefficient of variation for wheat; and in some cases the decline was quite large.

Factors other than reserves undoubtedly influenced the degree of instability in the two periods. Recessions in the post-1950 period were mild compared to those earlier, and built-in stabilizers acted to cushion the declines in income when a recession did occur. Income-induced fluctuations in demand were therefore milder in the more recent period. Barriers to trade were relatively high from 1920 to 1950 but lower after World War II, despite the previously mentioned foreign agricultural policies which affect trade. A greater integration of countries by means of trade has taken place in the

Chart 9

Farm Prices of Wheat and Corn in Constant Dollars

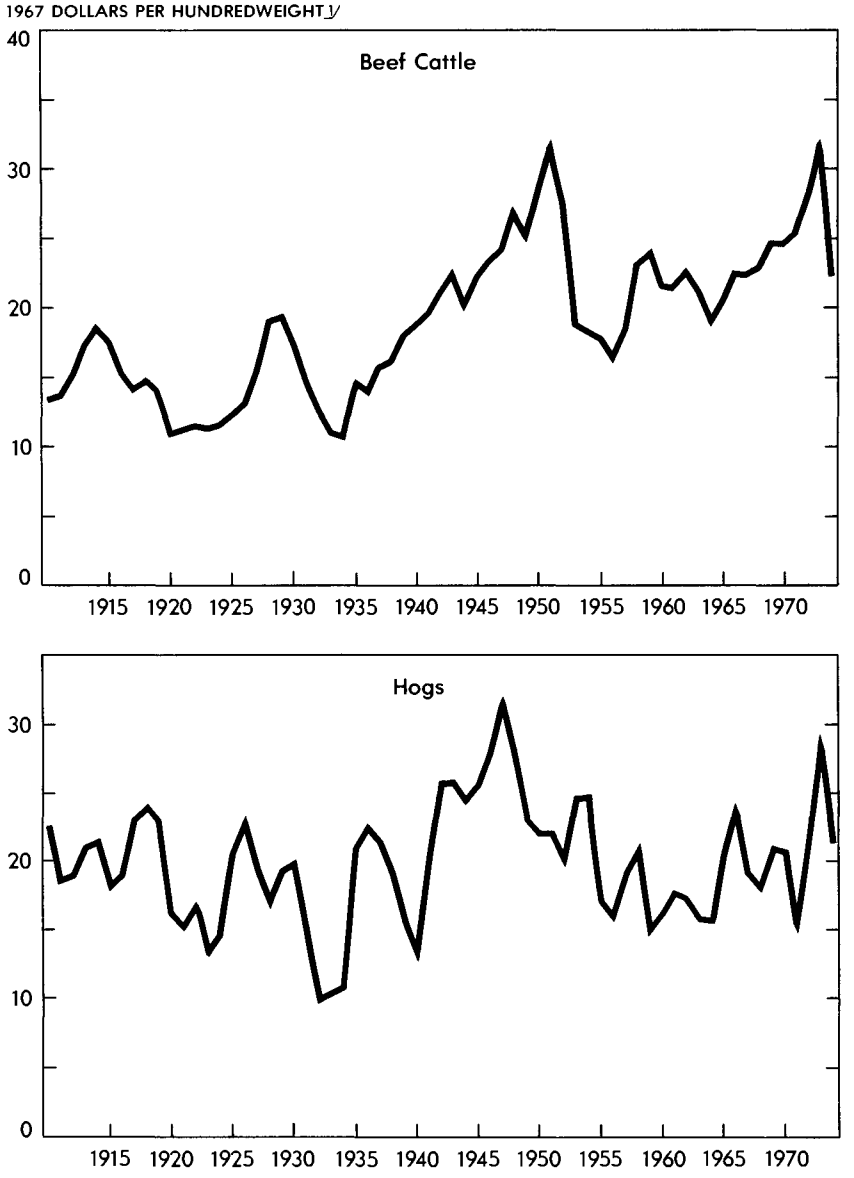


1/CURRENT DOLLAR PRICES RECEIVED BY FARMERS DEFLATED BY THE WHOLESALE PRICE INDEX FOR ALL COMMODITIES (1967=100).

SOURCES: DEPARTMENT OF AGRICULTURE, DEPARTMENT OF LABOR, AND COUNCIL OF ECONOMIC ADVISERS.

Chart 10

Farm Prices of Beef Cattle and Hogs in Constant Dollars



1/ CURRENT DOLLAR PRICES RECEIVED BY FARMERS DEFLATED BY THE WHOLESALE PRICE INDEX FOR ALL COMMODITIES (1967=100).

SOURCES: DEPARTMENT OF AGRICULTURE, DEPARTMENT OF LABOR, AND COUNCIL OF ECONOMIC ADVISERS.

TABLE 44.—*Indicators of the variance of farm prices in constant dollars, selected periods, 1910–71*

Commodity and period	Mean [1]	Variance	Coefficient of variation
Wheat:			
1910–49	2.31	0.279	0.229
1950–71	1.84	.190	.236
Corn:			
1910–49	1.73	.227	.276
1950–71	1.31	.072	.206
Cotton:			
1910–49	33.8	92.9	.285
1950–71	32.3	50.2	.219
Soybeans:			
1910–49	3.08	.914	.311
1950–71	2.56	.091	.118
Beef cattle:			
1910–49	16.43	17.9	.258
1950–71	22.36	13.2	.162
Hogs:			
1910–49	19.88	23.7	.245
1950–71	19.13	8.7	.154

[1] Annual averages: Dollars per bushel for wheat, corn, and soybeans; cents per pound for cotton; dollars per hundred pounds for beef cattle and hogs.

Sources: Department of Agriculture and Council of Economic Advisers.

recent period, and transportation and communication systems are greatly improved. These improvements not only diffuse shocks from the supply side somewhat more broadly, but also make for a quicker adjustment to changing economic conditions.

Although the stocks in Government hands during 1950–71 were acquired as a means of supporting prices above market-clearing levels, not as a stabilization reserve, their acquisition and release appear to have provided an important stabilizing influence on commodity markets. This stability was not without its costs, however. The stocks were quite large, and consequently they were costly both to acquire and to maintain. Since they were acquired as a by-product of programs designed to support farm prices, the increased stability was also a by-product. But the maintenance of comparable reserves for stability purposes would have similar costs.

A key question is whether we have returned to a period of increased price variability comparable to that prior to 1950. Grain prices have increased very greatly in 1973 and 1974. Yet normal weather in the United States and around the world will enable grain output to recover sharply in 1975. This increased supply would come into the market under conditions of weakened demand both from cyclical downturns in the economies of the developed countries and from a reduction in livestock enterprises. The consequence could be an abrupt reversal of the present situation, with much lower grain prices and higher prices for livestock products.

Certainly there are some elements in the present situation that are comparable to the period prior to 1950, especially the absence of large stocks. On the other hand, as noted above, important differences exist in the current situation which should serve to attenuate the price fluctuations.

Without a significant rebuilding of stocks, more price instability should be expected than during the 1950's and 1960's, but it seems unlikely that year-to-year changes will be as large as in the earlier era.

POLICY CHALLENGES AND OPTIONS

U.S. agricultural policy has in the past been dominated by two somewhat contradictory themes. The first has been the attempt to increase agricultural output, largely through public investments in agricultural research, the dissemination of new agricultural techniques, and in some cases the subsidization of inputs. The second theme has been a concern with the problem of low relative incomes in agriculture, which led to programs aimed at supporting farm prices above market-clearing levels and holding production down through restricting acreage and at times marketings.

An unintended by-product of these programs was the accumulation of sizable stocks of agricultural products in Government hands. These stocks and the recently diverted acres provided a degree of increased stability to commodity markets. They were also the means by which considerable amounts of food aid were provided to foreign countries, aid that eventually became an important component of the Nation's foreign assistance programs. But these benefits were obtained at considerable cost: less efficient use of the Nation's resources and heavy Government involvement in the agricultural sector.

The changed conditions of agriculture and the shift to market-oriented domestic farm policies that took place during the 1960's and early 1970's have solved many of the earlier difficulties, but new issues have emerged. The decline in excess capacity in agriculture and the sharp increase in food prices have added to the importance of obtaining low-cost increases in agricultural output. Moreover, with the growing interdependence between U.S. and foreign markets, the U.S. consumer may for the first time have an obvious interest in expanding the agricultural output in developing countries and improving the stability of international markets.

The rise in incomes in agriculture has reduced the importance of the farm-income problem. There will undoubtedly be an increased concern about instability, however, with the danger that in attempting to deal with this problem we will return to policies that created other problems in the past. If prices should decline precipitously from their current high levels, the temptation will be great for the Government to intervene by raising price supports above market-clearing levels.

The return of the dollar to near equilibrium exchange rates and the shift to floating rates place the United States in a better position to capitalize on the considerable comparative advantage that it has in agricultural products. To do so, however, will require continued emphasis on trade liberalization. Parallel to this is the need to encourage more market-oriented agricultural policies among our trading partners in order that the United States need not carry a disproportionate share of the adjustment to changing conditions of

demand and supply in world markets. Further adjustments in our own agricultural and trade policies will also contribute to a more flexible agricultural sector.

AGRICULTURAL DEVELOPMENT

The World Food Conference held in Rome in November 1974 had the primary objective of devising means of coming to grips with the emerging world food problem. The United States proposed to the Conference a comprehensive program of urgent, cooperative worldwide action on five points:

1. Increasing production in food-exporting countries.
2. Accelerating production in developing countries.
3. Improving the means of food distribution and financing.
4. Enhancing food quality.
5. Ensuring security against food emergencies.

Increasing agricultural output both at home and abroad is probably the critical issue on this agenda. Our state of knowledge with respect to ways of fostering agricultural development has advanced considerably in the last decade. Studies have shown that investments in developing and disseminating new production technology tend to have a high rate of social return. The adoption of new production technology involves increased use of modern inputs, such as fertilizer and machinery, which are produced in the nonfarm sector. The capacity to produce these inputs usually needs to be increased if generalized modernization is to take place, and adequate price incentives are important for their adoption. Similarly, improvements in the human agent through investments in schooling and training programs are required for the rural population.

Many developing countries have tended to underinvest in agricultural research and in the schooling of their rural population. Moreover, they have often concentrated their industrialization efforts on steel mills and the accoutrements of a modern mass-consumption society, to the neglect of industries which would have provided expanded supplies of modern agricultural inputs. In addition, they have discriminated against their agricultural sectors by means of trade and domestic price policies, thereby reducing the incentives to adopt modern inputs.

If these policies are changed, there is good reason to expect food output to keep up with increasing population and growing demand into the foreseeable future. To change the policies, however, will require considerable political courage and the ability to focus on longer-run requirements rather than short-term exigencies.

Even with changed policies by the developing countries, there is still a role for assistance by the advanced countries to facilitate the modernization of world agriculture. The United States has a tradition of providing such assistance, starting with President Truman's Point IV program. However, foreign assistance provided through that program concentrated on the transfer of our own knowledge rather than the development of new knowl-

edge, and therefore placed undue emphasis on strengthening farm extension programs in developing countries. The limitations on the transfer of agricultural production technology from one area to another were not adequately recognized, nor was the importance of strengthening the capability for agricultural research under ecological and economic conditions similar to those in which the new production technology was to be used.

In recent years the United States has shifted a larger portion of its diminishing foreign aid budget toward agricultural development, with particular emphasis on assisting small producers and landless workers. The United States has also supported since its inception the Consultative Group on International Agricultural Research, which allocates resources to the International Centers for Agricultural Research, and more recently it has agreed to establish an International Fertilizer Development Center in the United States.

The immediate challenge in strengthening world agriculture is to develop the national capabilities for agricultural research in the low-income countries. The generation and application of new production technology are the keys to agricultural development, particularly where land constraints exist. Although basic principles and basic plant material can usefully be transferred, new production technology for the most part has to be developed under the conditions in which it will be used.

There is also continued need to support agricultural research in the United States, as well as a need to make more effective use of existing resources. The private sector can and does support a great deal of agricultural research, and its expenditures for this purpose have grown. However, the private sector can be expected to undertake only that research from which it will be able to capture a return. Much of the knowledge produced from agricultural research is a public good, and private entities cannot capture the full benefits from it. This is especially true of basic research.

There has been a shift toward more applied research in recent years, partly because of budget measures and partly to make the research effort both more visible and more accountable. In fact, however, publicly supported research might better concentrate on basic research, leaving the applied research to the private sector. At the same time, attention might be directed to the efficiency of the current research establishment. The appropriate number of research stations, the division of labor between the universities and other research institutions, and the priorities in the research program itself are questions that should be examined.

Public support (State and Federal) for agricultural research in the United States has increased only slightly (1.6 percent) in constant dollar terms from 1968 through 1973, with a somewhat larger increase in scientific man-years devoted to such research. As a fraction of the gross national product from agriculture, however, public expenditures on research have declined from 1.4 percent in 1968 to 1.2 percent in 1973. At the same time there has

been a shift away from output-increasing research and toward a greater emphasis on social and environmental problems.

THE INSTABILITY PROBLEM

Changes in relative prices are desirable because they provide important signals to both consumers and producers about changes in relative scarcity of products. They help ration limited supplies among competing uses in times of short supply and encourage consumption when supplies are large. Agricultural prices are subject to larger fluctuations than many other products, mainly because production is subject to unpredictable shocks from the weather. Moreover, the biological nature of the production process results in a considerable lag between the time resources are committed to production and the time output is forthcoming, and the climatically induced production cycle limits the extent to which crop shortfalls can be replenished. In contrast, many other sectors of the economy have a continuous production process and output can more easily be adjusted to changes in demand.

Large swings in agricultural prices result in a loss in resource efficiency, since producers will frequently have made the wrong decision ex post. In addition, wide fluctuations in agricultural prices lead to transfers of income between producers and consumers. While these shifts will be offsetting over several years, they can be severe from the standpoint of either group in a particular year.

For producers, part of the problem is obtaining adequate information. If at the time of committing resources to production they knew what the demand would be when their output was expected to be sold, they could adjust their production decisions accordingly. Hence, information has value to society, and both producers and society at large can afford to use resources to improve that information, although there are obvious limits to predicting the weather and to a lesser extent Government policy.

Institutions have developed which provide protection to participants in unstable agricultural markets. An important example is futures markets, which offer a way of reducing uncertainty through hedging operations. Futures markets furnish an efficient means of pooling informed judgments about what prices will be. But because they cannot remove the source of price instability, they do not remove the basic resource misallocation that results from widely fluctuating prices. The farmer who makes production decisions based on $3 corn can protect that price through an appropriate hedging operation. However, if his corn is valued at $1 when it is sold, the cost from producing inappropriate quantities will still be there.

Government policy can help alleviate the instability problem in many ways, through: (1) improved information and analysis, (2) greater coordination of domestic agricultural policies among countries, (3) freer trade in agricultural products, and (4) building and maintaining greater grain reserves or stocks for use in years of crop shortfall. Whether the latter is required will depend in part on success in the other endeavors.

Improved Information and Analysis

The traditional Government role of providing information and analysis is an essential component of a free market philosophy. The importance of both is now greater than ever, especially in view of the interdependence of the U.S. food and agriculture sector with the world economy. With increased instability, more accurate forecasts of future market conditions will lead to a more rational allocation of resources. But improved forecasting will require an improved data base both here and abroad, the cooperation of other governments, and a strengthened and expanded capability to analyze these data. During the past year several significant steps have been taken to upgrade the statistical programs and forecasting work of the Department of Agriculture.

Coordination of Domestic Agricultural Policies

The Government has also sought to improve coordination among countries in the conduct of their domestic agricultural policies. For example, consultations were held in 1974 with many countries in order to obtain adjustments in domestic policies that would help alleviate the pressures from reduced U.S. grain output and large worldwide supplies of beef. Greater coordination in the future can cushion the shocks imposed on U.S. agriculture from abroad.

Trade Liberalization

Trade liberalization is an essential element in providing increased stability in world markets and in assuring food security for all countries. Weather-induced fluctuations in production could be offset through changes in exports and imports, thereby evening out the supply for any one country. The larger market area that would result from freer trade would increase the chance that the effects of bad weather in one location would be offset by good weather in other areas.

Efforts to liberalize trade are hampered by domestic agricultural policies designed to fix prices either above or below what would be market-clearing levels in the absence of such policies. Both kinds of policies have trade implications and are potentially destabilizing to world markets. If prices are set above market-clearing levels, restrictions on imports have to be imposed. If they are set below market-clearing levels, then exports have to be limited in order to provide adequate supplies to the domestic market if the country is on balance a net exporter, or imports must be subsidized if the country is to attain its domestic price goals. Such policies in effect push adjustment problems onto other countries, thereby making their agricultural sectors more unstable.

The intertwined nature of trade policy, domestic agricultural policies, and reserves policies is illustrated by the experience of the last 2 years. The sharp rise in grain prices, combined with weakening prices for livestock and poultry products and unacceptable rates of inflation, gave rise to pressures to control and limit exports. With freer trade, a larger area of supply might

have been tapped to accommodate the demand. Similarly, with more flexible domestic prices in some countries, price increases would have dampened some of the demand. In either case there would have been a more general sharing of the burden.

Grain Reserves

In the absence of more flexibility on the side of trade and domestic agricultural policies, the availability of contingency reserves can serve to cushion price rises. The experience since 1972, however, points up that reserves would have had to be very large to provide a stabilizing influence, larger than any one country or even a few countries would be willing to carry.

For this reason, and to achieve greater world food security, the United States has proposed an international system of nationally held grain reserves. In the past, the exporting countries—primarily the United States—have carried the bulk of the grain reserves. Since reserves may also benefit importing countries, a greater sharing of the costs among countries seems justified in the future.

Negotiations on grain reserves will be held in 1975. These discussions are likely to be protracted, since there is little agreement either on who benefits and who loses from stabilization or on the appropriate quantities of contingency reserves. Similarly, agreement on rules and criteria for managing the stocks is lacking.

There are several additional difficulties in developing an international system of nationally held grain reserves. One problem is that the benefits will accrue partly to those who have not paid for them. A possible solution is to negotiate a system that includes penalties and sanctions for those who do not participate. For instance, such countries could be denied access to the reserves in a period of tight supplies. Alternatively, reserves that participant countries accumulate and pay for might be made available to nonparticipants on less attractive terms, perhaps by an export tax at least equal to the accumulated carrying charges.

The acquisition and maintenance of grain reserves will have a variety of costs. While stocks are being accumulated, consumers pay higher prices than they otherwise would; and when they are released, producers in a similar way receive lower prices. Unless stocks are managed properly, they can be destabilizing by untimely release or accumulation. Moreover, there is the danger that a reserve program will again, as in almost all past attempts, become a price-propping program, used largely to insulate one sector or another from market forces.

There are two reasons why the United States should build grain stocks above their current low levels. First, conditions of free trade do not prevail in the world, and the United States provides freer access to its supplies than most other countries do. Under these conditions contingency reserves, if correctly managed, would provide a means of offsetting the shocks that come from abroad and furnish some protection to U.S. consumers and producers

(especially livestock producers). Second, ample stocks are one way to maintain confidence among foreign customers that this country will be able to meet its export commitments. If access to supplies cannot be assured, countries have a tendency to diversify their supply sources, turn to self-sufficiency, or perhaps resort to both of these.

FOOD ASSISTANCE

The United States provides food assistance to low-income groups through a variety of programs, especially the Food Stamp Program. This program has been greatly expanded and extended in recent years. Although not all the families eligible for such assistance have made use of it, budget costs to the Government have grown from only $250 million in fiscal 1969 to $4.0 billion in fiscal 1975. Moreover, it is estimated that food stamp bonus dollars raise food expenditures by 60 to 65 cents per dollar in contrast to an increase of from 20 to 30 cents per dollar in food expenditures that would be expected from comparable cash income supplements to this low-income group. An additional demand therefore has been placed in the market for food at the very time that food prices were rising sharply.

There is serious question as to whether the distribution of stamps is an efficient means of income transfer under current circumstances. A possible reform of the Food Stamp Program would be to replace the food stamps with direct transfers of money income to provide the recipient more freedom of choice and lead to a more efficient welfare program.

Large quantities of food aid have been supplied to foreign countries as part of our foreign aid program. This program has provided a convenient means of disposing of stocks accumulated in Government hands as a by-product of price support programs, and has thereby helped to reduce the costs to the taxpayer of carrying large stocks.

In contrast to the Food Stamp Program, food aid shipments under the Public Law 480 program have declined in recent years. Shipments fell from 10 million tons in fiscal 1972 to slightly over 7 million tons in 1973 and less than 4 million tons in 1974.

The objectives of food aid can be to alleviate human suffering caused by shortfalls in production in developing countries to furnish more limited relief when such natural disasters as earthquakes or hurricanes occur, or to supply continuous food aid as a means of balance of payments support or foreign aid to individual countries. The negotiations evolving out of the World Food Conference will attempt to solve the more persistent food security problems.

A country with a comparative advantage in agriculture might want to provide some fraction of its foreign aid in the form of agricultural products. With the decline in excess capacity in the U.S. agricultural sector, however, and the changes in domestic farm policy, such aid is no longer the "free" good that it was once imagined to be. Except to the extent that it substitutes for commercial sales, every incremental increase in tonnage shipped for this

purpose represents a corresponding reduction in the supply available to the domestic economy—and an increase in prices to the domestic economy. The costs of the program have now become more explicit, with the result that more rational policy choices may be made. The question is how desirable it is to provide food aid beyond the commitment to promote food security under conditions of stress, since continuing food aid can reduce incentives to strengthen the agricultural sector of the recipient country.

GUIDELINES FOR DOMESTIC FARM POLICY

Since the mid-1960's commercial farm policy has evolved toward much greater market orientation. The previous commodity programs, dating back to the 1930's, were built around a system of mandatory acreage allotments, marketing quotas, and high price supports for individual field crops. Today only a few crops (rice, peanuts, tobacco, and long-staple cotton) continue under such rigid programs. The difficulties with these programs were enormous: they were mandatory and inflexible to changes in supply and demand; they overstimulated the production of particular crops and led to the excess Government stocks of the 1950's and early 1960's; they provided "artificial" benefits, or subsidies, which became locked into land values; by holding up domestic prices, they conflicted with a liberal trade policy, requiring restrictions on imports and subsidies to make American products competitive in world markets.

The first major step in the transition was to reduce (market) price supports on individual crops and replace them with direct cash payments which were contingent on diverting land from crop production. Gradually the emphasis on individual crops was discontinued, allowing producers discretion to plant crops they considered most profitable. The principles that have guided the transition are economically sound.

1. Market prices should not be supported above market-clearing levels. Price supports to prevent excessive downside price declines in surplus years should be relatively low and cover only variable production costs. While providing an element of guarantee to producers, low floors avoid any need for export subsidies and encourage expanded domestic consumption and exports when supplies are large.
2. Production of individual crops should be free of controls. Controls interfere with producers' ability to make the best use of resources in response to changing conditions. If needed at all, production controls should be through general land diversion.
3. Direct cash payments are more efficient than high price supports as a means of providing income support to producers. Such payments are only warranted because of the volatility of agricultural markets, which can create excessive financial losses. In most years they should be unnecessary and should be limited to providing guarantees against the exceptional years of oversupply, thereby shifting some risk from

producers to taxpayers but permitting consumers to benefit from lower prices.

The agricultural developments beginning in 1972 enabled the principles to be implemented: almost all diverted land was released for production; export subsidies were phased out; import restrictions were relaxed to some degree; prices moved not only well above market supports but sufficiently high that direct payments under the provisions in the 1973 act were limited to wool and soil conservation. In effect, developments in the market contributed to a fairly dramatic move toward a policy of increased reliance on the market. These principles were, to a substantial degree, embraced in the Agriculture and Consumer Protection Act of 1973.

FARM POLICY IN 1975 AND BEYOND

In considering policy in 1975 and beyond, the principles that have guided farm policy in the past decade still apply. Government policy can function in complementary ways, as discussed above, through participation in a constructive international system of grain reserves, improvements in domestic and international information and analytical systems, measures to make international trade in agricultural products more flexible, and efforts to expand food production in developing countries. It is important, however, not to change farm policy in ways that are inconsistent with these principles. Efforts to raise price or income guarantees to producers, if successful, might have some small temporary effect in 1975 by reducing uncertainty and encouraging all-out production. However, even though market prices are expected to remain well above current guarantees in the immediate future, any substantial increase now would be a move backward for farm policy. When food supplies become more abundant in relation to demand, higher price supports would prompt a return to substantial land diversion, large Government payments, export subsidies, and import restrictions—and possibly even to the mandatory production controls of the past.

Current problems with dairy programs illustrate the pitfalls in heavy Government involvement. State and Federal marketing order programs institutionalize a higher price of milk for fluid consumption than for processing, and they restrict the free movement of raw milk. Together with import quotas and a relatively high Federal minimum price support, these measures place the dairy industry under heavy regulation and discourage efficient production. Consumers eventually pay extra for milk; and, because imports are usually limited to less than 2 percent of total consumption, trade in dairy products has become a constant source of dispute in trade policy. The dairy producers' welfare, on the other hand, is dependent on and affected by decisions setting Federal regulations. For many dairy farmers production is often unprofitable, and their numbers have been diminishing. Although there would be serious adjustment costs in reforming dairy programs according to the principles set forth above, the dairy industry could

in time become more efficient and prosperous, and consumers would purchase more milk and dairy products at lower prices.

* * * * * * *

Although economic circumstances have permitted a desirable move to a market-oriented commercial farm policy, they have also brought out a basic characteristic of agricultural markets: large price fluctuations and the uncertainty that these fluctuations generate. Producers, consumers, and Government policy makers will learn to adjust to the increased uncertainty. As this happens the instability itself will be diminished, but learning is not an instant process. In the meantime, steps that would return the agricultural sector to a more regulated basis in response to short-term or temporary problems should be avoided.