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PREFACE

In early 1977, the Congress faces major decisions about the basic agricultural legislation which expires at the end of crop year 1977. This Budget Issue Paper is intended to provide a general introduction to farm policy, describe the economic setting in which new legislation will be implemented, examine some of the major policy options from which the Congress might choose, and estimate the budget costs and other effects of these options. The scope of this paper is limited to commodity policy. In keeping with CBO's mandate to provide nonpartisan analysis, this paper contains no recommencations.

This paper was prepared by the Natural Resources and Commerce Division of the Congressional Budget Office, under the general direction of Douglas M. Costle. The principal authors are Ken Deavers, Jim Vertrees, Alan Walter, and Robert Gordon. Lynn Daft, formerly of CBO, contributed substantially to earlier drafts. Patricia H. Johnston edited the manuscript and Cheryl Miller and Connie Leonard typed it.

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Alice M. Rivlin
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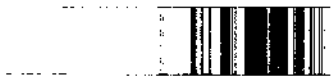

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SUMMARY

In early 1977, the Congress must make major decisions about the basic agricultural legislation which expires at the end of crop year 1977. This includes the Agriculture and Consumer Protection Act of 1973, the Rice Production Act of 1975, and the Agricultural Trade Development and Assistance Act of 1954 (P.L. 480). (In addition, the Food Stamp Act of 1964 and parts of the Commodity Distribution and School Lunch programs will also expire at the end of fiscal year 1977.) From the standpoint of potential budget costs and effects on the general economy, these actions will be among the most important to be taken by the first session of the 95th Congress.

During most of the past 40 years of federal agricultural programs, the capability of American agriculture to produce exceeded demand at prices that assured adequate returns to the committed resources. Thus, most government farm programs have focused on supporting prices and on avoiding, managing, or disposing of government stocks acquired in the process of these price supports. These were relatively expensive programs, running between $3 and $4 billion annually during most of the 1960s and the early 1970s (see Summary Figure 1).

Events of the past few years have significantly reduced the costs of government price support programs, which are currently running at about $1.8 billion annually (fiscal year 1977 estimate; fiscal year 1976 actual costs were $1.0 billion). While it is beyond the scope of this paper to treat in detail the underlying causes of these reduced costs, it is important to note that they have little to do with any fundamental change in U.S. agricultural policy. 1/ Farm prices for basic commodities continue to have lower limits set by law, but recent market prices have been

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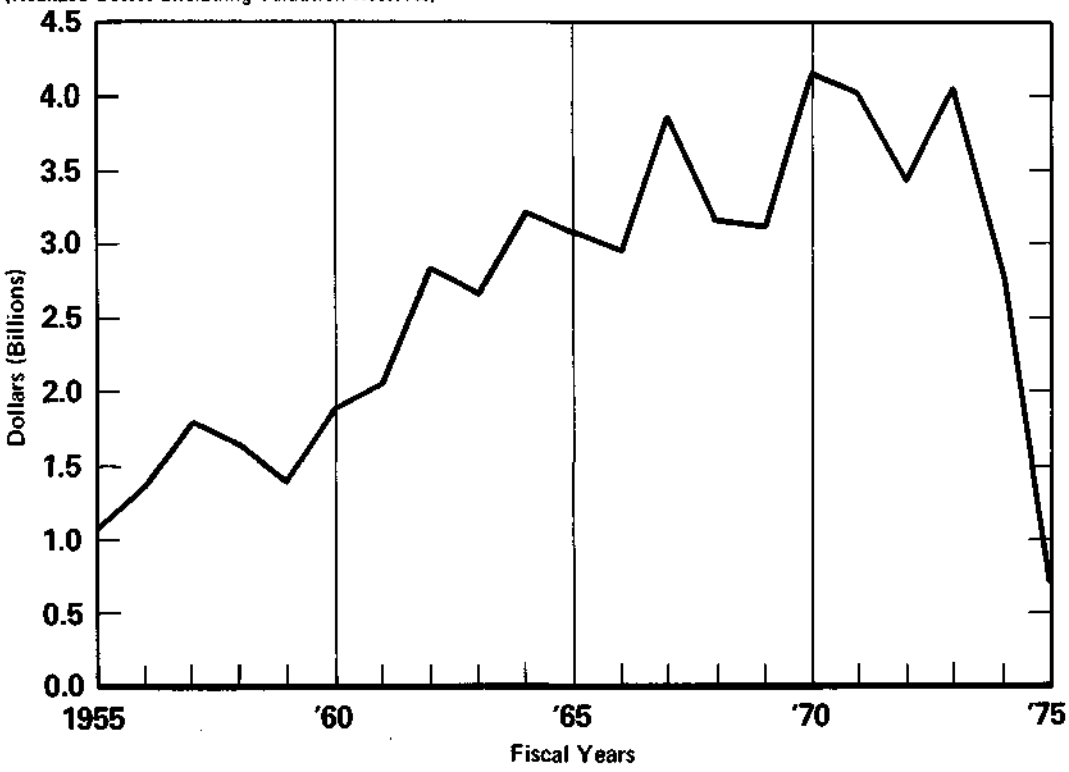
1/ See CBO, U.S. Food and Agricultural Policy in the World Economy for a detailed review of events of this period.

Figure S-1

Commodity Credit Corporation Net Operating Results, Fiscal Years 1955-1975

(Realized Losses Excluding Valuation Reserves)



substantially above those levels, leaving most provisions of the current law inoperative. However, adjustments in the current programs, coupled with improvement in world-wide growing conditions and reduced U.S. exports, could again push the costs of these programs upward. In fact, under certain conditions, costs could well exceed those of the 1960s and early 1970s.

Recent Experience

The current low cost of commodity programs and the high level of economic prosperity reflected in recent

national farm income aggregates obscure a number of specific concerns about current and future policy.

Increased Dependence on Export Markets. First, these income levels were obtained partly through a dramatic surge in U.S. agricultural exports. In the decade prior to this increase, the net U.S. agricultural trade surplus hovered around $1 to $2 billion per year. Since 1973, the net agricultural export surplus has been around $12 billion per year. While these export earnings have provided badly needed foreign exchange--needed to pay for the escalating costs of oil imports--they have made U.S. agriculture substantially more reliant on grain exports as a source of farm earnings. The long-term prospect for continued U.S. grain exports at these levels depends on factors largely beyond the control of the U.S. Government--worldwide weather conditions and the policies of foreign governments.

Uneven Distribution of Income Gains. Second, the income gains of the last few years have not been uniformly distributed among all farmers. In particular, livestock producers were severely hurt by rising feed costs and falling livestock prices (triggered by large-scale liquidation of beef and dairy herds). Their unrealized real capital losses on inventories totalled $25 billion in 1974. Also, income gains have been concentrated among the larger producers, i.e., those with gross sales in excess of $100,000 per year and net incomes above $40,000.

Increased Land Values and Production Costs. Another effect of the recent high grain prices (and incomes) has been a significant rise in farm real estate values. Since 1970, these values have more than doubled. While established landowners have experienced significant capital gains, the increase in land values has become a part of the costs of production for recent purchasers and renters of farm land. This fact is likely to be a continuing source of trouble in establishing future agricultural policy.

Contribution to Overall Inflation. Finally, rising food prices, partly attributable to rising farm prices, have

accounted for a sizeable share of overall inflation. 2/ For the period 1971-1974, nearly 40 percent of the increase in the consumer price index was atributable to food.

In addition, higher food prices contributed to higher wages (through escalator clauses and negotiated wage increases) and to higher federal budget costs for programs tied to the cost of living, such as food stamps, social security, and retirement programs. These increases further heightened inflationary pressures in the general economy.

Structure of Agriculture. Family owned and operated farms still account for the large majority of all farms. For years, however, the trend in agriculture has been toward fewer and larger farms. While many factors have contributed to this trend, the relative stability and reduced uncertainty that was fostered by government commodity policy was instrumental in facilitating the expansion of farm size in the 1950s and 1960s. Furthermore, the distribution of commodity program benefits was heavily in favor of larger farms. This too added somewhat to the trend toward fewer and larger farms.

POLICY ISSUES

Events of the recent years notwithstanding, the fundamental position of U.S. agriculture has not changed much from the 1950s and 1960s. It continues to have the capacity to produce more than domestic and foreign markets will accommodate at acceptable prices, when worldwide growing conditions are favorable. Thus, the threat of surplus stocks, depressed farm prices, and higher program costs remains real.

The farm community, with the most direct stake in the outcome of legislative actions, clearly sees the threat of falling farm prices and eroding incomes as the key

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2/ Much of the increase in food prices is the result of increased marketing and processing costs.

issue. The current market outlook reinforces and intensifies farmer concern over this issue. Many are also concerned about federal intervention in their farming operations. Consumers, on the other hand, worry more about high retail food prices and how farm policy can be used to avoid a repeat of the rapid food price inflation of 1973-1975. The recent experience with more moderate food price inflation, however, seems to have quieted consumers' concerns. Other nations also have an interest in the outcome of the Congressional debate. Their view of the issue depends on whether they are major competitors of U.S. exports, major commercial customers, or potential aid recipients.

Four issues seem to be at the center of debate about new farm legislation. They are:

- At what levels and through which mechanisms should prices be supported?
- Should this support include protection against natural hazards?
- Should consumers be protected from the effects of very high farm prices as producers are now protected from very low prices?
- How open should U.S. agricultural markets be to other nations?

POLICY OPTIONS AND THE BUDGET

For the most part the budget impact of Congressional action on these issues will not occur until fiscal year 1979. Summary Table 1 shows the projected fiscal year 1979 budget costs of current policy and various options for deficiency payments (wheat, feedgrains, and cotton), rice, dairy and peanut programs, disaster payments, and grain reserves. Because of the many possible combinations of optional programs, no total budget costs are given.

TABLE S-1. BUDGET OUTLAYS OF MAJOR PROGRAMS: CURRENT POLICY AND OPTIONS FOR FISCAL YEAR 1979, IN MILLIONS OF DOLLARS

Option	1979
CURRENT POLICY	
Deficiency Payments (Wheat, Feedgrains, Cotton)	100
Dairy Program (80 Percent of Parity)[a]	415
Rice Program	315
Peanut Program	136
Disaster Protection	362
Disaster Payments	(350)
Crop Insurance	(12)
OPTIONS	
Deficiency Payments (Wheat, Feedgrains, Cotton)	
Cost of Production, Current Land Value	3,600
Cost of Production, Average Land Value	500
Emergency Farm Act of 1975	4,200
Dairy Program[a]	
75 Percent of Parity	115
85 Percent of Parity	725
Rice Program	
Lower Target Price	215
Reversion to Basic Legislation	325
Peanut Program	
Two Price Program	56
Target Price Program	84
Disaster Protection	
Disaster Payments and Crop Insurance	
Restructure Disaster Payments Similar to Crop Insurance	410
Disaster Payments Covering 90 Percent of Variable Costs	250
Crop Insurance Only	
Expand Crop Insurance, Offer 25 Percent Premium Subsidy, and Discontinue Disaster Payments	97
Grain Reserve (20 million metric tons)	350

[a] Fiscal year 1978 estimates. No estimates made for fiscal year 1979.

Level of and Mechanisms for Supporting Prices

From the 1930s until the early 1960s, the primary mechanisms used to support farm prices were commodity loan programs, through which farmers could place any portion of their crop under government loan at established loan rates (floor prices). At the end of the loan period a farmer could either repay the loan with interest, or forfeit the stored commodity to satisfy the obligation. The key determinant of this decision is the relationship between the market price and loan rate, and throughout most of this period the loan rate was high relative to market prices. Thus, the government acquired large stocks of various commodities, incurring large costs in the acquisition, management, storage, and disposal of these stocks.

Direct payments to farmers became a major tool of commodity policy in the 1960s, though the commodity loan programs also remained in place. The 1973 Agriculture Act established a "target price" concept as a means of determining direct payments to producers of wheat, feedgrains, and cotton. (The 1975 Act did the same for rice.) Under this program, farmers meeting certain eligibility criteria receive payments called deficiency payments, if the average market price is less than the target price. The size of the payment is the target price minus the market price or loan rate (whichever difference is smaller), multiplied by expected production on a specified number of acres (the allotment) based on each farmer's historic cropping pattern. Normally, only a portion of a farmer's production is protected by deficiency payments. For the past few years market prices of wheat, feedgrains, and cotton have been well above target prices and loan rates, so there have been no deficiency payments for these commodities, nor have any government stocks been acquired.

There is a crucial difference in the operation of target price and commodity loan programs. The former, since they rely on direct payments to farmers, do not interfere directly with market prices. The latter, however, have typically operated with loan rates established above market prices. In effect, the loan programs have replaced market prices with higher loan rates. These high loan rates provided inappropriate signals to farmers about production,

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leading to the accumulation of large government stocks and the need for costly export subsidies (over $300 million annually in peak years), concessionary sales, and international food aid to keep costs and stocks within bounds.

Part of the legislative debate may focus on whether to continue the current target price concept (in combination with low loan rates). This policy relies on market mechanisms to provide production signals to producers and to distribute the resulting supply among users (and between current consumption and privately-held stocks), with direct payments to producers as the primary means of income stabilization for farmers. There is concern expressed by some that these programs do not adequately address the interests of consumers, of low-income persons, and of the less developed nations, since they do not assure reasonable price stability and adequate levels of publicly controlled stocks. One alternative would be a return to loan programs alone. Such an interventionist policy, which has typically operated to establish loan rates above the market price, may interfere with efficient production decisions and U.S. farm exports, and may increase the overall cost of achieving price (and income) support goals. Another alternative would be to rely on target prices alone, eliminating the loan programs and thereby diminishing substantially the federal role in price determination. As a practical matter, another choice involves continuing the direct payment provisions of the 1973 and 1975 acts, but with substantially higher loan rates. While this would reduce potential outlays for deficiency payments, it increases the expectation of loan outlays and the possibility of larger government stocks and export subsidies.

Though the debate over which mechanisms to use will be important, federal budget costs will depend more on decisions about the level at which prices (and incomes) should be supported. The major issue is whether to continue current policy -- target prices are adjusted by law in response to changes in an index of prices paid by farmers and loan rates are determined, with substantial discretion, by the Secretary of Agriculture -- or to tie target prices and loan rates legislatively to some measure of the cost of production.

Since 1973, farm production costs have increased substantially. As a way to set and adjust target prices and loan rates, production costs are, however, troublesome for several reasons:

- o They vary widely with farm size, management efficiency, productivity, and location;
- o Land values, a key determinant of production costs, are affected by local demand for land for nonagricultural uses, location, productivity, inflation, and the willingness of farmers to pay more for land for additions to current operations;
- o Land costs vary among farms depending on whether a farmer is a renter, has owned land for some time, or is a recent purchaser; and
- o Using some sort of "average" production costs would tend to be too high for larger, more efficient operators and too low for smaller farmers. Thus, establishing target prices and loan rates based on average production costs would favor the larger, more efficient farmers.

Importantly, the inclusion of land costs in a cost of production adjustor over time would lead to the capitalization of higher target prices and loan rates into land values. This would further contribute to rising land values, property taxes, estate taxes, and mortgages, thereby increasing barriers to entry into farming, and leading to still higher overall production costs, particularly for renters. Ultimately the comparative advantage of the United States in producing certain commodities could be eroded.

The budgetary effects of linking target prices to costs of production, including land, could be substantial. For example, in fiscal year 1980 projected deficiency payments for wheat, feedgrains, and cotton would be $5.4 billion with target prices set at 100 percent of production cost, including current land values, compared to $0.4 billion under current policy (see Table S-2). If loan rates were held at current levels, rather than raised along with target prices, estimated deficiency payments would be about

30 percent higher, or $6.6 billion. Some or all of the costs of the loan program described below would, however, be avoided.

TABLE S-2. PROJECTED DEFICIENCY PAYMENTS UNDER ALTERNATIVE TARGET PRICES AND LOAN RATES (EXCLUDING RICE), IN BILLIONS OF DOLLARS, BY FISCAL YEARS

Option	1979	1980	1981	1982
Current Policy	0.1	0.4	0.6	0.7
Cost of Production Current Land Value a/	3.6	5.4	5.9	6.1
Cost of Production Average Land Value b/	0.5	0.9	1.5	1.8

a/ Target prices at 100 percent of cost of production (direct costs, machinery costs, and farm overhead plus land cost, ownership basis, based on current land value) with loan rates at 80 percent of target price.

b/ Same as above but land valued at initial purchase prices rather than current value.

The effect of setting loan rates at 80 percent of the target price in this example is to raise U.S. wheat prices artificially, in that the loan rates become the effective domestic price. This results in a decline in exports and foreign exchange earnings and causes government grain stocks, now nearly none, to reach at least 1,000 million bushels by 1981 -- involving a budget outlay during fiscal year 1979-1982 of over $3.0 billion, plus annual interest and storage costs. In addition export subsidies would be needed to keep U.S. wheat competitive in international markets. Beyond these impacts on budget outlays and exports, the high loan rates would cause domestic prices to be above those projected under current policy. Thus the food component of the CPI

would be about 1.0 percent higher in each year from 1979 to 1981. Of course, farm income would also be about 30 percent higher during the period.

In addition to wheat, feedgrain, and cotton, the Congress will also consider new legislation for dairy products (included in the 1973 act), rice (1975 act), and probably peanuts. 3/

For rice the legislative debate is likely to focus on the high target prices for rice authorized by the 1975 act that are expected to cause deficiency payments of $143 million (estimated) in fiscal year 1977. Lower target prices (and loan rates), more in line with the current relationship among target prices and production costs for other commodities such as wheat, could substantially reduce budget outlays. However, reversion to the old rice program (which occurs automatically if the 1975 act expires) would likely entail production controls and loan rates above world prices, thereby requiring export subsidies. Program costs would be about the same as with current policy, but with significantly more government intervention and higher prices for consumers (see Table S-3).

Milk prices are supported under the government dairy program through purchases of manufactured dairy products. There is likely to be debate about whether to raise the price at which these purchases are made. The level of price support (now at 80 percent of parity with a current legal minimum of 75 percent and a maximum of 90 percent) can have a direct effect not only on milk production, but also on budget outlays, consumption, and consumer prices. In fiscal year 1978 government outlays at 75, 80, and 85 percent of parity are estimated to be $115, $415, and $725 million respectively (see Table S-3).

3/ Although soybeans are a significant crop for many farmers, they are not discussed in this paper for two reasons: (1) soybeans were not covered in the 1973 Act, and (2) their market price has recently been substantially above loan rates so that their budgetary costs have been negligible.

TABLE S-3. PROJECTED BUDGET COSTS UNDER ALTERNATIVE RICE, DAIRY, AND PEANUT PROGRAMS, FOR FISCAL YEARS 1978 AND 1979, IN MILLIONS OF DOLLARS

Option	1978	1979
Rice a/		
Current Policy	320	315
Lower Target Price	200	215
Reversion to Basic Legislation	315	325
Dairy Products		
Current Policy (80% of Parity)	415	NA
75% of Parity	115	NA
85% of Parity	725	NA
Peanuts		
Current Policy	120	136
Two-Price Program	NA	56
Target Price Program	NA	84

a/ Includes price support, export subsidies, and P.L. 480 outlays.

The current peanut program, with its rigid allotment and high loan rates, has been costly (estimated at $120 million in fiscal year 1978). A "two-price" program option (similar to legislation introduced in the House during the last session) would reduce government costs as well as provide some savings to domestic consumers. A target price option for peanuts would also reduce government costs, but by less than a "two-price" option. Consumers' savings, however, would be far greater (see Table S-3).

Protection Against Natural Hazards

Natural hazards, such as flood, drought, wind, and hail, can cause serious crop damage or complete failure, and therefore are an additional source of income variability for individual farmers. Current federal programs protecting farmers from natural hazards (aside from emergency loans) operate through the Federal Crop Insurance Corporation and the disaster payments provisions of the 1973 Agriculture Act and the 1975 Rice Act.

The disaster payments provisions provide free insurance to eligible wheat, feedgrains, cotton, and rice producers, with payments made if farmers are prevented from planting or if yields are below specified levels. Budget costs have varied, but are generally high -- $557 million in fiscal year 1975, $287 million in fiscal year 1976, and $374 million (estimated) for fiscal year 1977. In addition to high budget costs, a number of weaknesses of the program have become apparent. Production on nonallotment acreage makes otherwise eligible producers ineligible, and producers without allotments receive no benefits. Disaster yields (used to determine low yield payments) may not reflect the productivity of individual farms. Also some hazards involving managerial judgment -- such as a farmer's decision that it is too wet to plant a crop -- are covered, unlike other kinds of insurance. Finally, and perhaps most importantly, payments are not graduated to reflect the timing of the loss or costs incurred in production, and are low for farmers that suffer a complete crop loss.

The Federal Crop Insurance Corporation (FCIC) provides all-risk insurance which, by low, cannot exceed the cost of production. Indemnities paid by the FCIC are equal to 90 percent of premiums, with the surplus used as a reserve. Administrative costs are paid through appropriations, but appropriations (limited to $12.0 million annually) have recently fallen short of expenses, thus requiring the use of reserves. Since FCIC is permitted by law to refuse insurance where there is a high risk, FCIC insurance is not available for many areas where experience dictates a sound program is not feasible. In 1975 the program was available in about half of the counties in the continental United States.

The major issue is what role the government should have in protecting farmers against natural hazards. There are several options, but two seem most realistic:

- o improvement of the current disaster payments provision and continuation of the present crop insurance system; and,

- o replacement of disaster payments with an expanded FCIC program.

Continuation of disaster payments provision with an FCIC program would mean expected average outlays of $362 million annually over the next several years (Table S-4). Modifying the disaster payments provision (and maintaining the FCIC system) to offer protection similar to that available through FCIC to producers covered under the 1973 act and the 1975 Rice Act would increase annual costs by $50 million. A less generous disaster payments program (to cover only 90 percent of a producer's variable costs) would reduce expected annual outlays by $110 million. Expanding the FCIC program and discontinuing the disaster payments program would provide a substantial budget savings, depending upon the changes made in the FCIC program. Expanding FCIC nationwide for crops currently covered by disaster payments and offering a government subsidy of 25 percent of the premiums would cost about $100 million annually -- nearly $250 million less than the current annual cost of disaster payments and FCIC. However, less than half the eligible acreage would likely be covered by the program since many producers would choose not to participate. Increasing participation through greater government incentives would add to budget costs.

TABLE S-4. ESTIMATED AVERAGE ANNUAL BUDGET OUTLAYS OF ALTERNATIVE CROP INSURANCE/DISASTER PAYMENTS PROGRAM OPTIONS FOR FISCAL YEARS 1978-1982, IN MILLIONS OF DOLLARS

Option	Average Annual Cost
Disaster Payments and Crop Insurance	
Continue Current Programs	362
Restructure Disaster Payments Similar to Crop Insurance	410
Disaster Payments Covering 90 Percent of Variable Costs	250
Crop Insurance Only	
Expand Crop Insurance, Offer 25 Percent Premium Subsidy, and Discontinue Disaster Payments	97

Protecting Consumers Against the Effects of Very High Farm Prices

Currently, deficiency payments and loan rates provide producers with protection against low prices. Consumers on the other hand have no protection against the effects of very high grain prices on food prices. In the 1950s and 1960s overall food prices rose only modestly. A major contributing factor was relatively low and stable grain prices, which stimulated livestock production, keeping meat prices at relatively low levels despite higher rates of consumption. With the draw-down of government stocks and the fuller utilization of cropland, the opportunity for price fluctuation has increased.

Under current legislation and administrative guidelines, government stocks will accumulate only if prices fall near the loan rate and remain there for an extended period. (This is a distinct possibility only for wheat over the next year or two, though the government now has a substantial stock of rice, a foodgrain.) Though it appears the

private sector, in the absence of government stocks, will hold greater stocks than in the past, there are price risks and costs associated with storing grain for any prolonged period. A decision to build up and operate a domestic grain reserve, either under government ownership or control (for example, through storage payments to farmers with rules for release of stocks), is an alternative to the current policy of letting market conditions and loan rates determine the level and stability of grain prices.

Operating rules (actions or events that trigger stock acquisition and release) are critical to the effectiveness of a reserve to reduce instability. Based on experience, carryover stocks of 45 to 60 million metric tons of grain (stocks at the end of the 1976/77 crop year will likely be near the mid-point at that range) would keep prices relatively stable -- within plus or minus 20 percent of average prices. Based on a carryover stock of 60 million metric tons, with the government owning one-half, acquisition cost would be around $2.8 billion with annual interest and storage costs of over $500 million (See Table S-5). Receipts would provide some, perhaps a substantial, offset.

Openness of U.S. Agricultural Markets to Other Nations

In comparison with the agricultural trade policies of other nations, U.S. trade policy is relatively free. An open agricultural trade policy for the United States can have obvious benefits, for example higher incomes for crop producers and grain exporters, higher foreign exchange earnings, and possible leverage for use in seeking trade and diplomatic concessions. However, in the context of a restrictive world market, there are also some potential drawbacks -- greater farm price and income instability, higher and more unstable grain costs for livestock producers, and higher retail food prices. The heavy reliance on agricultural exports for farm income and foreign exchange earnings highlights the importance of keeping U.S. agricultural markets open to other nations. However, conventional tools for protecting the domestic economy against sharply escalating prices -- export restrictions -- conflict with this goal.

As discussed above, one stabilizing alternative is a domestic grain reserve. Bilateral agreements, which are proliferating, particularly in the international wheat market, offer another means for the United States to deal with export demand over a period of years. But in periods of relative scarcity they may intensify instability by reducing the portion of supply that is rationed by the market. Though the United States is pushing for more liberalized world agricultural trade (which could diminish the potential for instability), the prospects for near-term progress are limited.

TABLE S-5. ACQUISITION AND OPERATING COSTS OF ALTERNATIVE GRAIN RESERVES, EXCLUDING PROFITS OR LOSSES FROM GRAIN PURCHASES AND SALES, IN MILLIONS OF DOLLARS

	Size of Reserve (Million Metric Tons)		
	10	30	50
Acquisition Cost	935	2,805	4,680
Annual Operating Cost	175	524	874

CHAPTER I INTRODUCTION AND BACKGROUND

In early 1977, the Congress faces major decisions on expiring agricultural legislation. This includes the Agriculture and Consumer Protection Act of 1973, the Rice Production Act of 1975, and the Agricultural Trade Development and Assistance Act of 1954 (P.L. 480). In addition, the Food Stamp Act of 1964 and parts of the Commodity Distribution and School Lunch programs will also expire at the end of fiscal year 1977. From the standpoint of both future budget outlays and effects on the general economy, these actions will be among the most important to be taken by the first session of the 95th Congress.

Perceptions of the major issues around which the agricultural policy deliberations of 1977 will revolve depend greatly on the point of view from which the policy is examined and current and near-term market conditions. The farm community, with the most direct stake in the outcome of these deliberations, clearly sees the threat of falling farm prices and eroding incomes as the key issue. The current market outlook reinforces and intensifies farmer concern over this issue. In addition many farmers are concerned about current and potential federal intervention in their farming operations. Consumers, on the other hand, worry more about high retail food prices and how farm policy can be used to avoid a repeat of the rapid food price inflation of 1973-1975. However, the return of food price inflation to more normal levels seems to have caused the earlier conditions to fade from memory, and substantially reduced consumers' interest in farm policy. Other nations also have an interest in the outcome of Congressional debate. Their views of the issues depend on whether they are major competitors of U.S. exports, major commercial customers, or potential aid recipients.

Given the large measure of uncertainty that hangs over the future world food situation and the likelihood that future farm policy will have to deal with a greater range of market conditions than have past policies, it is important that current market conditions not be viewed as permanent or as indicative of a continuing uninterrupted

trend. In particular, commodity policies designed to deal primarily with conditions of relative shortage can, if the actual condition turns out to be one of relative surplus, result in a rapid and largely uncontrollable expansion in costs.

Because of this uncertainty, there appear to be four major policy issues associated with new agricultural legislation:

- At what levels and through what mechanisms should farm prices be supported?
- Should this support also include protection from the effects of natural disasters?
- Should consumers be protected from the effects of very high farm prices as producers are now protected from very low prices?
- How open should U.S. agricultural markets be to other nations?

This paper provides a general introduction to farm policy, describes the economic setting within which the new policy will be implemented, explains commodity programs and how they function, examines some of the major policy options from which the Congress might choose, and estimates the budget consequences and other effects of these choices. Its scope will be limited to commodity policies for wheat, feedgrains, 1/ cotton, dairy products, rice, and peanuts. Soybeans are not discussed in this paper because: (1) they were not covered in the 1973 act; and (2) their market price has recently been substantially above loan rates, resulting in negligible budget costs. Separate papers discuss foreign assistance, agricultural research, and the Food Stamp program. 2/

EVOLVING CHANGES IN THE STRUCTURE OF AGRICULTURE

For most of the past 40 years, the federal government has played a major role in America in agriculture.

1/ Feedgrains are corn, barley, grain sorghum, and oats.

2/ See CBO, The Food Stamp Program: Income or Food Supplementation?, January 1977.

Over this period, agriculture has been in a state of nearly constant change. These developments have necessitated frequent and sometimes pronounced changes in policy. Events of the past four years, though receiving more public attention than the more gradual evolution of the 1950s and 1960s, are only the latest chapter in this long-term adjustment process. Unfortunately, these recent events will not make the design of future agricultural policy any simpler. Not only does the importance of the choice of a particular policy option now appear to be greater, but also the uncertainty of outcome is, if anything, greater.

The structural changes in agriculture, many of which began back in the 1930s, have continued apace. Farms have become fewer in number (now 2.8 million as compared with 5.4 million in 1950), larger in size, more specialized in the commodities they produce, more dependent on purchased production items, and more demanding of managerial sophistication.

The majority of farms, including large farms, however, are still under family ownership and operation, though hired labor is used by many in varying degrees. Large farms, including family farms, require high capital investment--often between $100,000 and $500,000.

While many factors outside of the government contributed to the changing farm structure, commodity programs have played an important role in the movement to fewer and larger farms. By substantially reducing price and income instability, they have facilitated the adoption of new technology and encouraged larger, more specialized farms. One estimate 3/of the impact of commodity programs during the 1953-1972 period indicates that, in the absence of the more stable market conditions which they provided, by 1972 there would have been 24 percent more farms, and average farm size would have been 19 percent smaller. In addition to this effect of reduced uncertainty on farm size and numbers, the distribution of commodity program benefits toward larger farms also contributed to increased size and reduced farm numbers. For example, in 1969 the 7.1 percent

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3/ Frederick J. Nelson and Willard W. Cochrane, "Economic Consequences of Federal Farm Commodity Programs, 1953-1972," Agricultural Economics Research, Vol. 28, No. 2, (April 1976), pp. 52-64.

of farms with more than $40,000 gross sales received over 40 percent of the benefits from commodity programs and these benefits accounted for 42 percent of the average net farm income of farms in this class. 4/ In contrast, farms with less than $5,000 gross sales accounted for about 51 percent of total farms but received 9.1 percent of subsidy benefits, about 5 percent of farmers' average net income from all sources.

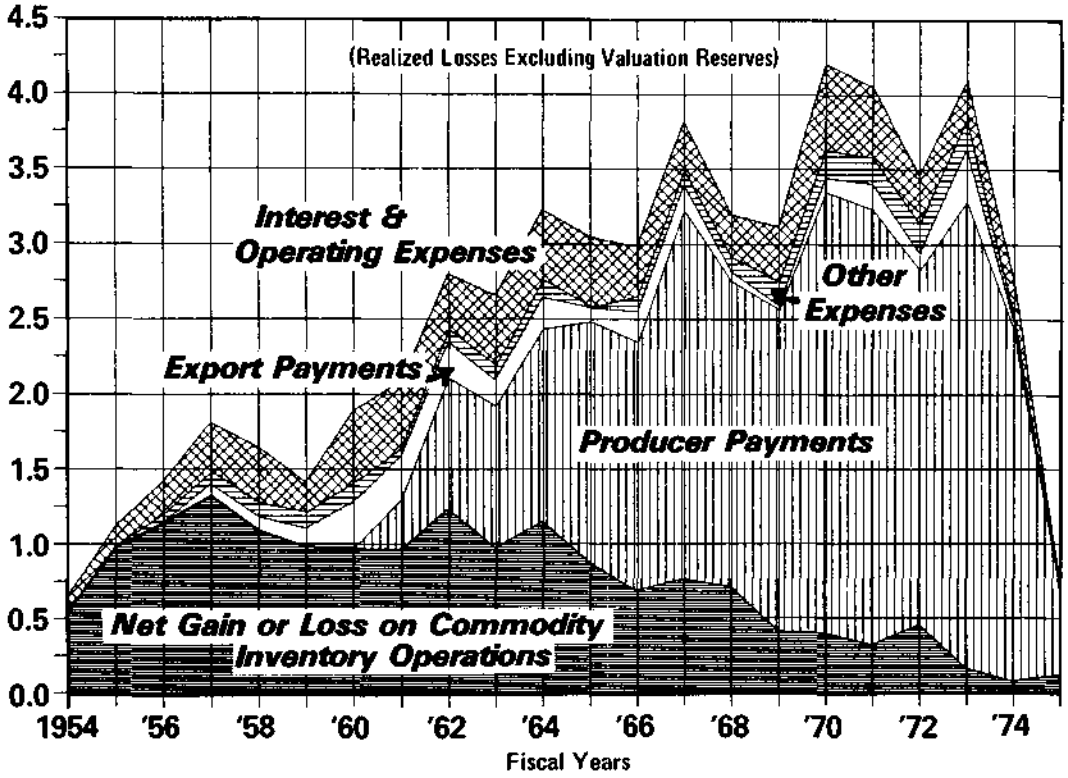
The changes in farm structure have had a variety of effects. They have contributed to rapid gains in agricultural labor productivity, thereby releasing labor for employment in the nonfarm sector. Since 1920, about 40 million more people have migrated off farms than have migrated into agriculture. This has meant higher incomes for those who left the farm, and it has also contributed to higher incomes for those families who remained in farming. These changes have not come without some problems. They have necessitated large-scale human and community adjustments, often at the expense of those most directly affected--hired farm laborers, small farmers, and local small businessmen. And, for better or worse, these changes have significantly lessened the uniqueness of the farm, both as an economic enterprise and as a social unit.

The task of agricultural policy these past 40 years has been to facilitate (and encourage) this massive and continuing adjustment, all the while keeping the supply and demand of agricultural output roughly in balance. For most of this period, U.S. capacity to produce exceeded demand at acceptable prices, with the result that most farm programs were focused on supporting farm prices and on the avoidance, management, and disposal of excessive stocks. These were relatively expensive programs, running between $3 to $4 billion per year during most of the 1960s and into the early 1970s (see Figure 1).

4/ See Charles L. Schultze, The Distribution of Farm Subsidies (Washington, D.C.: The Brookings Institution, 1971).

Figure 1

Net Operating Results, Fiscal Years 1954-75



Source: USDA Agricultural Stabilization and Conservation Service, *Commodity Credit Corporation Charts*, January 1976.

RAPID AND UNUSUAL CHANGES IN THE 1970s

The Agriculture and Consumer Protection Act of 1973, which soon expires, represents the most recent attempt by the federal government to deal with this evolving set of adjustment problems. Yet, events of the past four years overtook most provisions of this authority. They did so in the sense that a combination of unanticipated strong foreign demand and shortfalls in domestic production converted surplus into shortage, leaving most provisions of the Act inoperative. Thus, the recent near-historic low

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costs of commodity programs are largely fortuitous. As will become clear later, a number of alternative scenarios, combining changes in the commodity programs with improved worldwide yields and reduced exports, could result in future budget costs equal to or greater than any experienced in the 1960s.

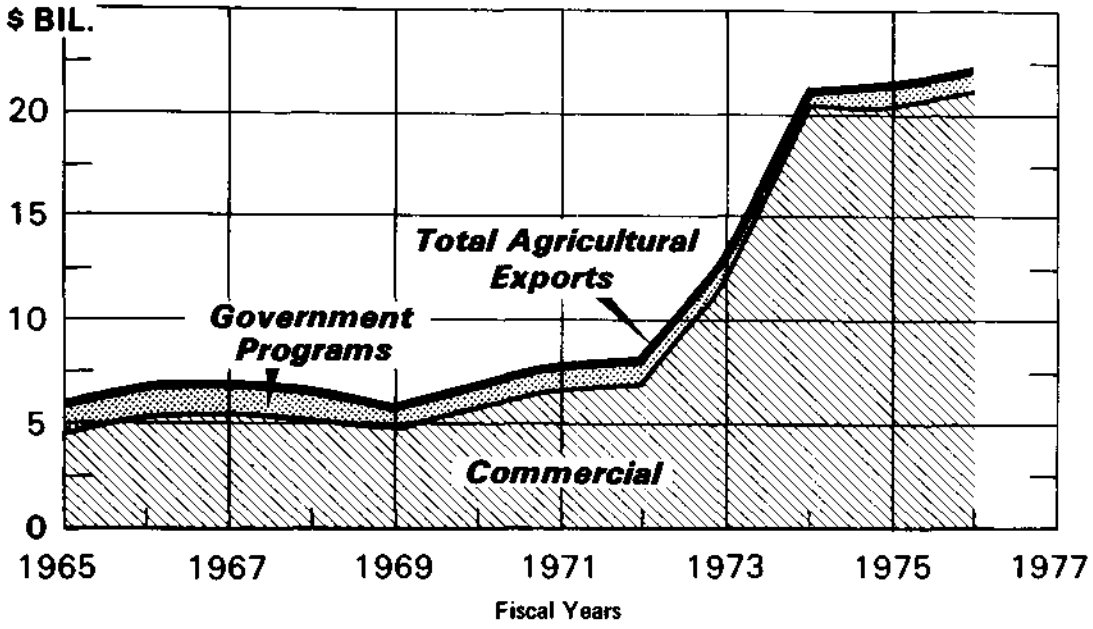
The surge in agricultural exports that began in late 1972 occurred for a combination of reasons, including: a decision by the Soviet Union to fill domestic shortfalls through imports; an accelerating demand for livestock products spurred by rising incomes in the United States and abroad; poor harvests in several nations; and the devaluation of the dollar. The net effect of these events was that U.S. agricultural exports jumped sharply to a new and significantly higher plateau which they have since maintained (see Figure 2). In the decade prior to this increase, the net U.S. agricultural trade surplus hovered around $1 to $2 billion per year. Since then, the net agricultural trade surplus has been around $12 billion annually.

Beyond increasing the relative importance of U.S. agriculture in world trade--the United States now accounts for about half of all world grain exports--increased food exports have provided additional foreign exchange earnings at a time when they were badly needed to pay for escalating costs of oil imports. (Exports of the nonfarm sector since mid-1973 have been in deficit $8 to $10 billion per year.) However, increased agricultural exports have also increased the exposure of U.S. food markets to the vagaries and uncertainties of the world market. As supply/demand conditions in the world market shift--largely due to either weather effects or governmental actions--the effects are transmitted back to the U.S. market. In fact, these effects are magnified, since many nations seek to maintain agricultural policies independent of events in the world at large. This independence thwarts the allocative role of world prices, and forces the brunt of adjustments on those nations like the United States that maintain relatively open agricultural markets.

The effects of the surge in exports were intensified by events occurring domestically. Eager to reduce the cost of large government-held stocks, the United States pursued a policy of export promotion and production restraint going into the 1973 crop. In combination, these factors

Figure 2

U.S. Agricultural Exports: Commercial and Under Government Programs



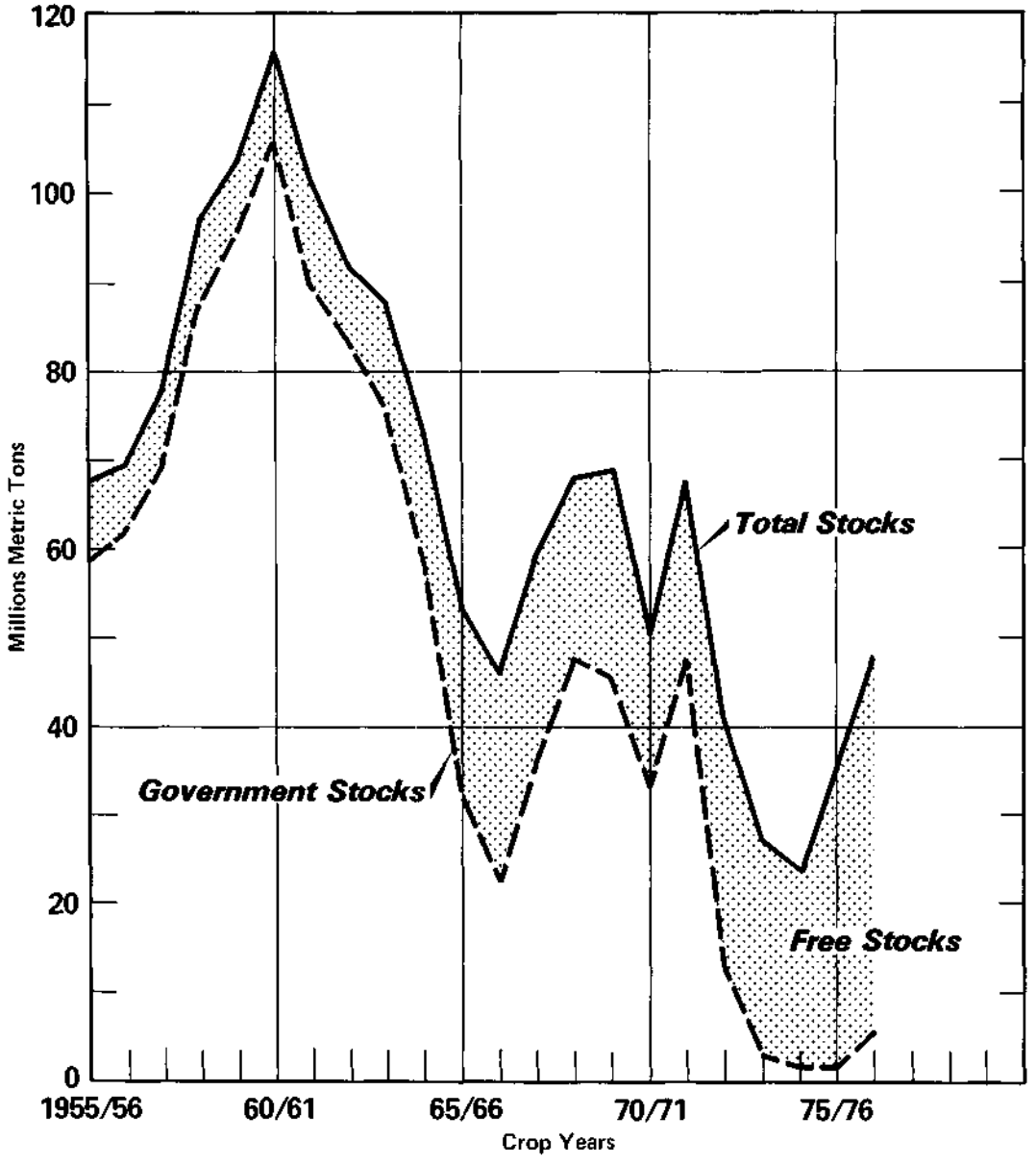
Source: U.S. Department of Agriculture, Economic Research Service.

resulted in a sharp drop in U.S. grain stocks. Attempts to expand production and rebuild stocks in 1974 were thwarted by poor crops in the United States and abroad, resulting in a further drawdown in stocks. Improved crops in 1975 and 1976 halted the rise in farm prices, though a further increase in grain exports in 1975 kept prices from falling sharply. The large buildup of government stocks that occurred during the 1950s and 1960s, as well as the drawdown following 1972, are illustrated in Figure 3.

The record high grain and soybean prices of 1973-1975 resulted in a sharp jump in overall farm income. For the

Figure 3

Ending Grain Stocks, Government (Owned and Under Loan or Reseal) and Free (Private), 1955/56 to 1976/77 (Estimated)



Source: Glenn L. Nelson, *Food and Agricultural Policy in 1971-74: Reflections on Controls and Their Impact,* Office of Economic Stabilization, U.S. Department of Treasury, Dec. 1974; and U.S. Department of Agriculture Statistics.

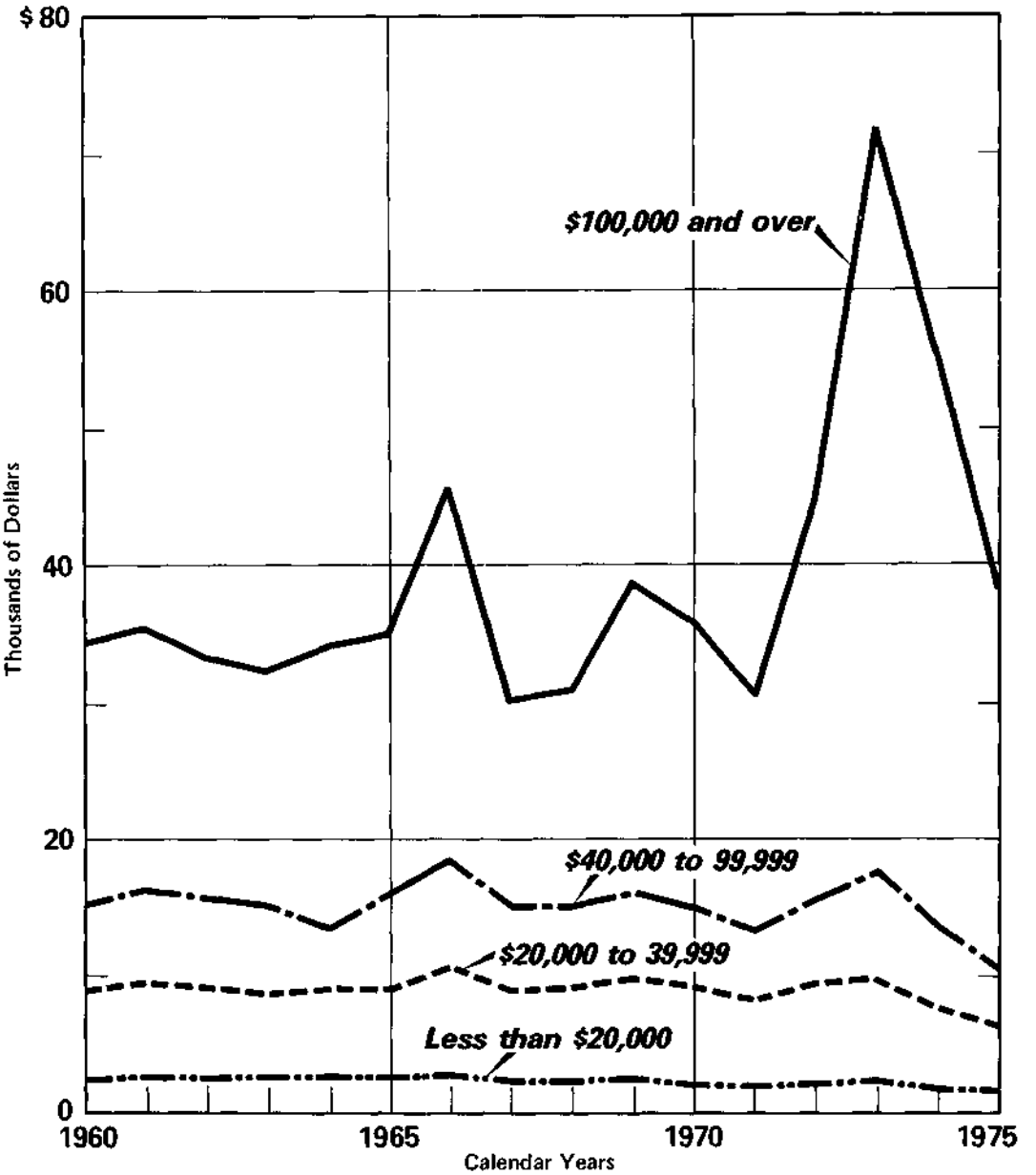
period 1965-1971, total net farm income had averaged around $13.5 billion per year, rising as high as $14.3 billion in 1966. In 1972, total net farm income jumped to $18.7 billion and the following year soared to $33.3 billion. However, a combination of declining grain prices and rising production costs in 1975 and 1976 pulled net farm income down, though not to its pre-1972 level. For 1976, it averaged around $24 billion.

This unheralded prosperity is also reflected in the very high capital gains experienced by the farm sector since 1970. During the period 1971-1973, capital gains to farming (measured in current dollars) were nearly twice as large as total net farm income which, as noted, was at a record high. After adjustment for the rapid inflation of these years, the real gain was still nearly the equivalent of farm income. In 1974, however, this trend was sharply reversed as livestock producers had an unrealized real capital loss of $25 billion on their inventories and the cost of living for farm families rose even faster than land prices (which rose 14 percent). Capital gains far in excess of anything experienced over the past 35 years, immediately followed by capital losses again in excess of anything experienced for the past 35 years, point up the volatility of agricultural markets these past 5 years.

The high level of economic prosperity reflected in the national farm income aggregates was not uniformly distributed among all farmers, however, as the capital losses of 1974 imply. For livestock producers, the sharply higher grain prices meant sharply higher feed costs. This triggered a large scale liquidation of beef and dairy herds, causing livestock prices to tumble, resulting in the capital loss just noted. There also appear to have been significant differences in the income gains of farms of different sizes. Those farms with gross sales in excess of $100,000 per year more than doubled their average per farm net farm income (adjusted for inflation) between 1971 and 1973 (see Figure 4). In contrast, farms with gross sales in the $20,000 to $99,999 range experienced an average gain of less than 25 percent for the same period. And, by 1975, this gain had disappeared as average real net farm income for units with sales of less than $100,000 fell to its lowest level in the past 15 years.

Figure 4

Real Net Farm Income, By Sales Class, 1960-1975 [a/]



Source: Calculated from data in USDA/ERS, *Farm Income Statistics*, July 1976.

a/ Net farm income adjusted by index of prices paid by farmers for family living items, 1967 = 100.

These variations demonstrate that aggregate farm income data should be viewed with a major limitation in mind: aggregate farm income does not adequately reflect either the distribution of farm income or the economic status of all those considered to be engaged in farming. Those farms with over $40,000 gross sales represent only 16 percent of all farms but account for about 60 percent of farm income and rely on farm income for over three-fourths of farmers' total income. Farms with less than $10,000 gross sales, however, account for 52 percent of total farms but only about 11 percent of farm income, with three-fourths or more of farmers' total income from off-farm sources. Of equal importance is the fact that, since farmers with sales of less than $10,000 derive only a relatively small portion of their income from farming, commodity programs are of little direct significance to their current or future well-being.

The distribution of these commodity program benefits has also been affected by the capitalization 5/ of higher grain prices and income in the value of cropland. A large share of the capital gains of 1971-1973 was due to the inflation of farm real estate values. Average farm real estate values have increased in each of the past 20 years and, since 1970, have more than doubled (see Figure 5). In some prime farming areas, cropland is now reportedly selling for as much as $3,000 per acre. Thus, while established land owners have seen the value of their holdings skyrocket and some have realized these gains through the sale of their farms, for recent purchasers of farm land and for renters of farm land, the inflation in land values has meant increased costs of production. During the 1950s and 1960s the inflation in farm land values was partially attributed to the capitalization of farm price supports into the value of land. In the 1970s, with grain prices far exceeding the level of government price support, it has been the very high market prices (and the expectation that they will remain high in the future) that have become capitalized in land prices. As will be noted later

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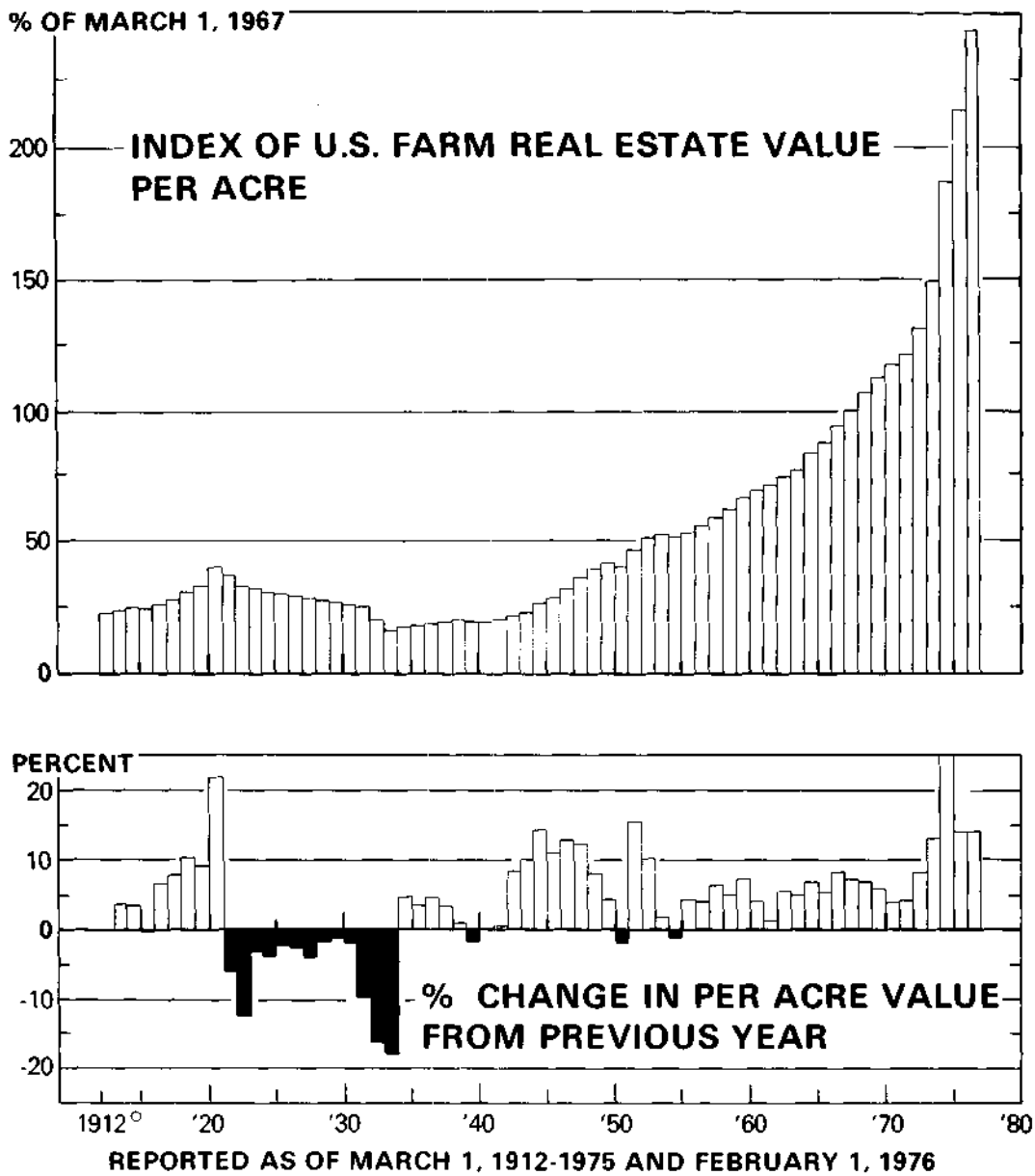
5/ Capitalization is the process by which actual or expected profits from an enterprise heavily influence the value of its assets, apart from their initial acquisition costs.

Figure 5

Index of Farm Real Estate Value and Percent Change in Value From Previous Year (Per Acre)



Source: U.S. Department of Agriculture, Economic Research Service.

in the paper, this phenomenon is likely to be a continuing source of trouble for future agricultural policy.

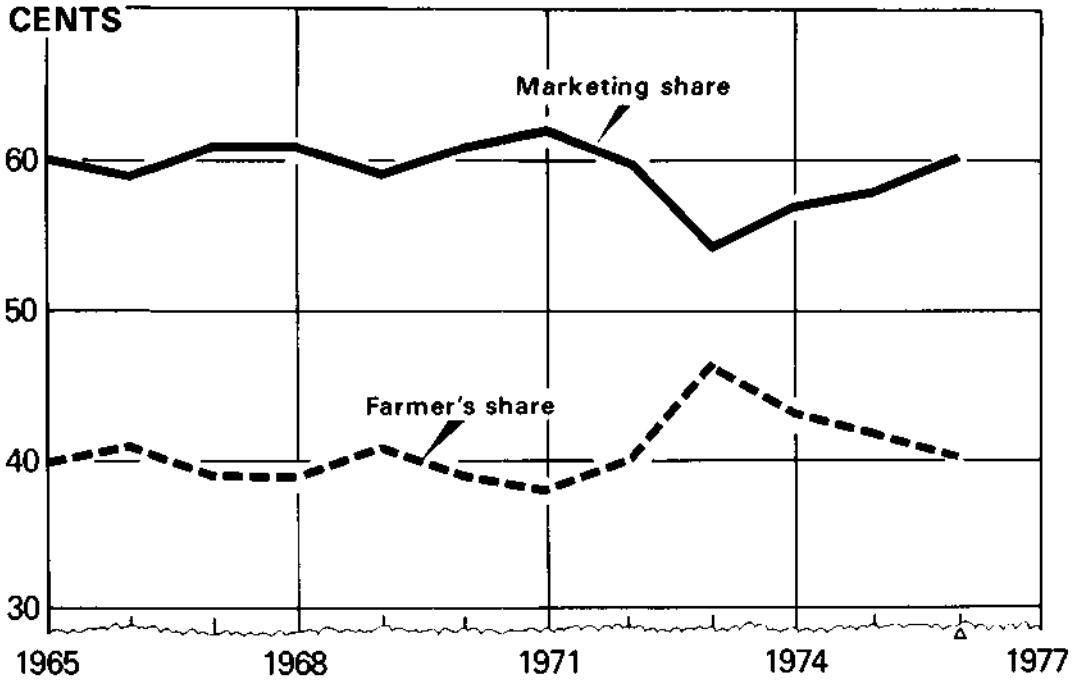
Higher farm prices have not gone unnoticed by American consumers, either. During 1970-1975, food prices increased an average of 8.9 percent annually. These increases accounted for a sizable share of overall inflation; for the period 1971-1974, nearly 40 percent of the increase in the consumer price index was attributable to food. Of course, much of the increase in food prices is the result of increased costs of marketing and processing. Approximately 60 percent of a consumer's food dollar, on average, goes for things that occur to food once it has left the farm--transportation, processing, packaging, advertising, retailing, restaurant preparation, etc. Another 20 percent goes for production costs, such as the purchase of machinery, fertilizer, seed, and pesticides, with the remaining 20 percent of the retail value added at the farm level. As a result, though very high farm prices explain most of the increase in food prices in 1973, a year of record high farm prices, in the following two years higher marketing margins accounted for about three-fourths of the increase in food prices (see Figure 6).

Still, regardless of the causes, high food prices had a pronounced effect on consumers, particularly those with lower incomes who either did not qualify for food stamps or chose not to participate in this program. The long-run downward trend in the share of disposable income spent for food reversed its course and turned slightly upward in 1974 and 1975. It is now around 17 percent, and again slowly declining.

In addition, higher food prices contributed to higher wages (through escalator clauses based on the cost of living and negotiated wage increases) and to higher federal budget costs for programs tied to the cost of living, such as food stamps, social security, and retirement programs. These increases further heightened inflationary pressures in the general economy. In short, the experience of the early 1970s demonstrated how inflationary a tight food market can be under certain conditions. At the same time, the cause of the rise in food prices offers a useful reminder of the limits in using farm commodity policy to affect consumer food prices.

Figure 6

Shares of the Farm-Food Dollar



SHARE OF DOLLAR CONSUMERS SPENT IN RETAIL FOOD STORES FOR MARKET BASKET OF DOMESTIC FARM-FOOD PRODUCTS *Δ PRELIMINARY.*

Source: U.S. Department of Agriculture, Economic Research Service.

CHAPTER II THE FUTURE OUTLOOK

Assessing the future food situation has always been a risky undertaking, but in recent years it has become especially difficult. The unpredictability of weather and governmental policy can wreak havoc with the most enlightened of predictions. Thus, the following discussion of what the future holds for American agriculture should be viewed with caution.

WORLD FOOD OUTLOOK

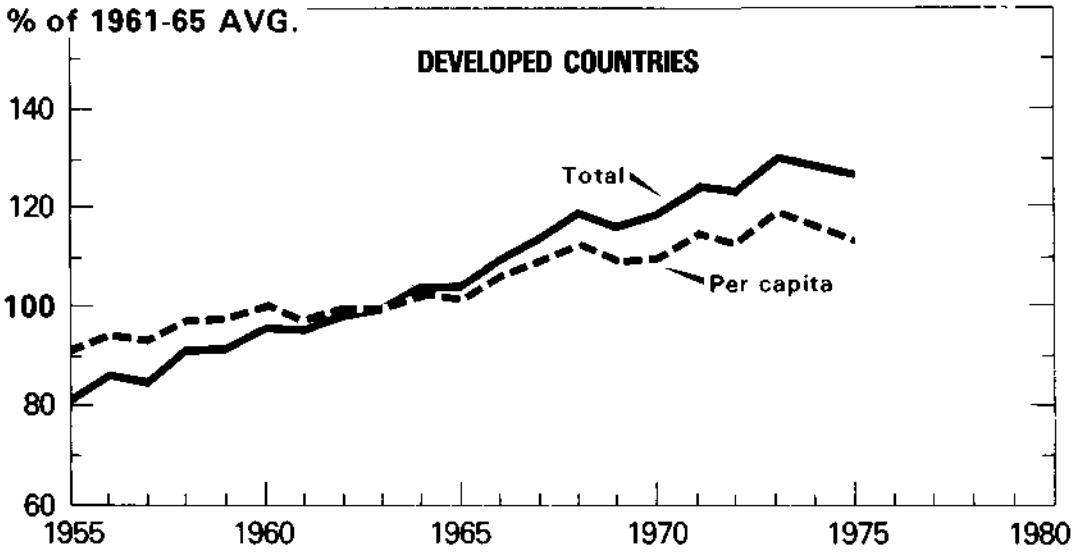
This chapter begins with an appraisal of the world outlook, since what happens to the supply and demand for food in other nations will greatly affect the situation in the United States. Assuming normal weather and a continuation of recent productivity trends, continued improvement in per capita food production is expected for the world as a whole. As has happened over the past two decades (see Figure 7), the rate of gain in food production in the less developed countries (LDCs) will probably parallel the rate of gain in developed countries. Yet, the continued high rates of population growth in the LDCs will keep their per capita gains in food supply small.

There will almost certainly be an increasing gap between the supply and demand of food in the LDCs, giving rise to larger import needs. Estimates of the magnitude of the gap vary, though a doubling of recent import requirements is quite possible, absent much larger investments in agricultural production than now planned (see Figure 8). What share of this gap can be met through commercial imports is uncertain though it seems likely that a large share must be in the form of concessionary sales or donations.

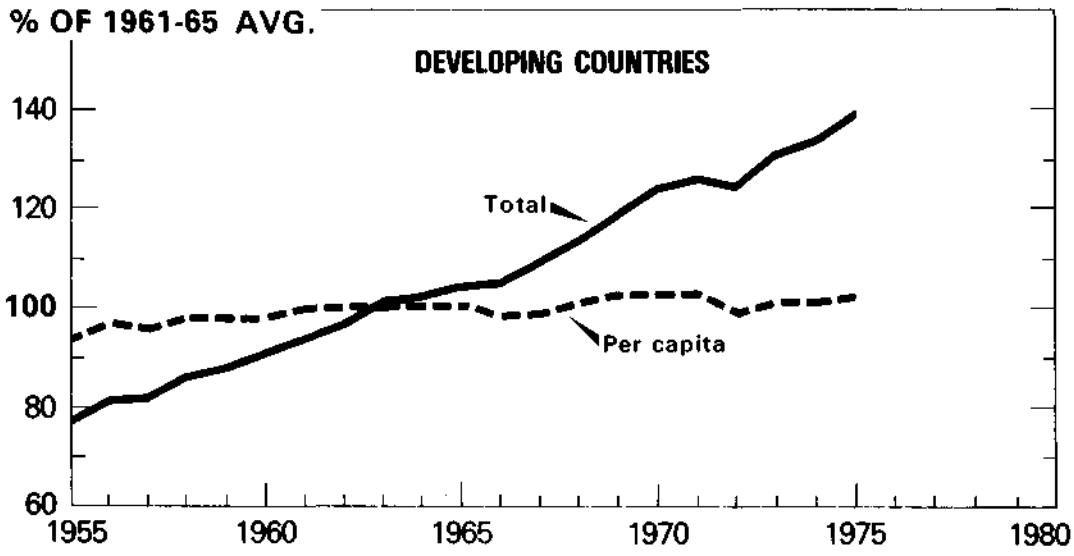
Developed countries will continue to expand food production. At this point, there is little reason to believe that the protectionist agricultural and trade policies that pervade the world scene will be materially

Figure 7

Index of Agricultural Production for Developed and Developing Countries



INCLUDES NORTH AMERICA, EUROPE, U.S.S.R., JAPAN, REPUBLIC OF SOUTH AFRICA, AUSTRALIA, AND NEW ZEALAND.

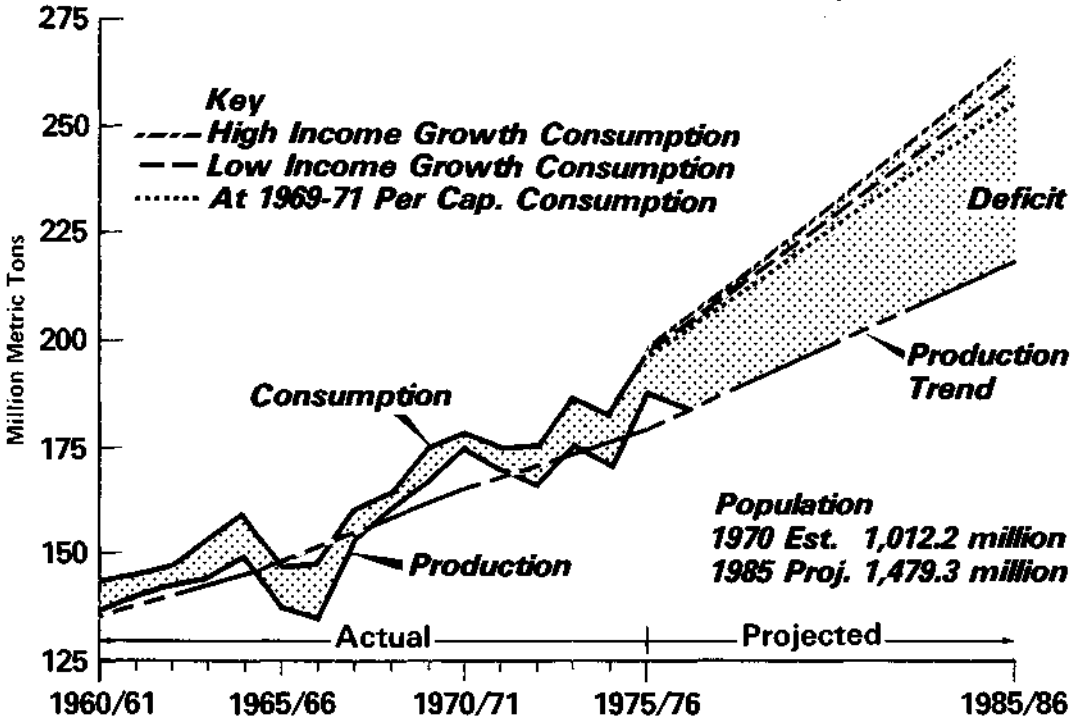


INCLUDES LATIN AMERICA, ASIA (EXCEPT JAPAN AND COMMUNIST ASIA), AND AFRICA (EXCEPT REP. OF SO. AFRICA)

Source: U.S. Department of Agriculture, Economic Research Service.

Figure 8

Low Income Food Deficit Developing Market Economies
Cereals: Production and Consumption, 1960-1975, and Projected 1985



Source: International Food Policy Research Institute, *Meeting Food Needs in the Developing World*, Research Report No. 1, February 1976.

liberalized in the near future. Most nations will likely continue promoting agricultural self-sufficiency. In addition, major grain exporting nations other than the United States could well recover some of the traditional export markets they have lost to the United States since 1972.

DOMESTIC OUTLOOK 1/

In one respect, the condition of U.S. agriculture has not changed much from the 1950s and 1960s. It continues to have the capacity to produce more than domestic and foreign markets will accommodate at acceptable prices, when growing conditions around the world are favorable. The threat of surplus stocks and depressed farm prices and incomes remains, events of the past few years notwithstanding. This means that the escalation of commodity program costs is also a threat.

In other respects, however, conditions are significantly different from preceding decades. The increased reliance on grain exports as a source of farm income and foreign exchange earnings, the increased importance of the livestock sector as the per capita consumption of livestock products increases, the reduction of underutilized land and labor resources, and the reduced grain stocks (at least temporarily) all suggest an increased potential for instability.

Although it will not be possible to predict the year-to-year course with great accuracy, these factors suggest that we will experience periods of both relative surplus and relative shortage over the next five to ten years. Such fluctuations will require an adaptive policy, one that is designed for dealing with both extremes.

With regard to the immediate outlook, U.S. agriculture is still adjusting to the economic shocks of the past four years. Crop production was good in 1976 and, with normal weather and expected yields, should be even better in 1977. Stocks are being rebuilt. In the case of wheat, end-of-year stocks will return to pre-1973 levels this year. Feedgrain stocks, however, are being rebuilt more slowly and are less likely to return to past levels within this period. Foreign demand for U.S. grain is expected to level off, causing exports to stabilize, if not fall slightly.

1/ Individual commodity outlooks are presented in the Appendix.

The combination of increasing production, larger stocks, and weakening export demand (if it materializes) will cause grain prices to fall. Preliminary projections show corn prices continuing to fall toward $2.00 with wheat prices around $2.50 to $2.70 over the next two to three years (see Table 1). Detailed projections for wheat are shown in Figure 9. How low grain prices fall in part depends on activity in livestock production and partly on changes in price support programs. The livestock sector still has not recovered from the losses of the past three years stemming from very high feed costs and the rapid liquidation of herds that this escalation of costs triggered. Though it does not appear that the profitability of livestock will materially improve before mid-1977, this will depend on how rapidly feedgrain prices fall and how quickly demand in the general economy turns up. In any event, total net farm income is not likely to increase over the next two or three years, and real net income will likely decline.

As Table 1 shows, farm prices will not be a major contributor to higher retail food prices under these conditions. Food prices are projected to increase on average about 3.7 percent annually over the next two to three years, largely as a result of a continuation of recent increases in marketing costs.

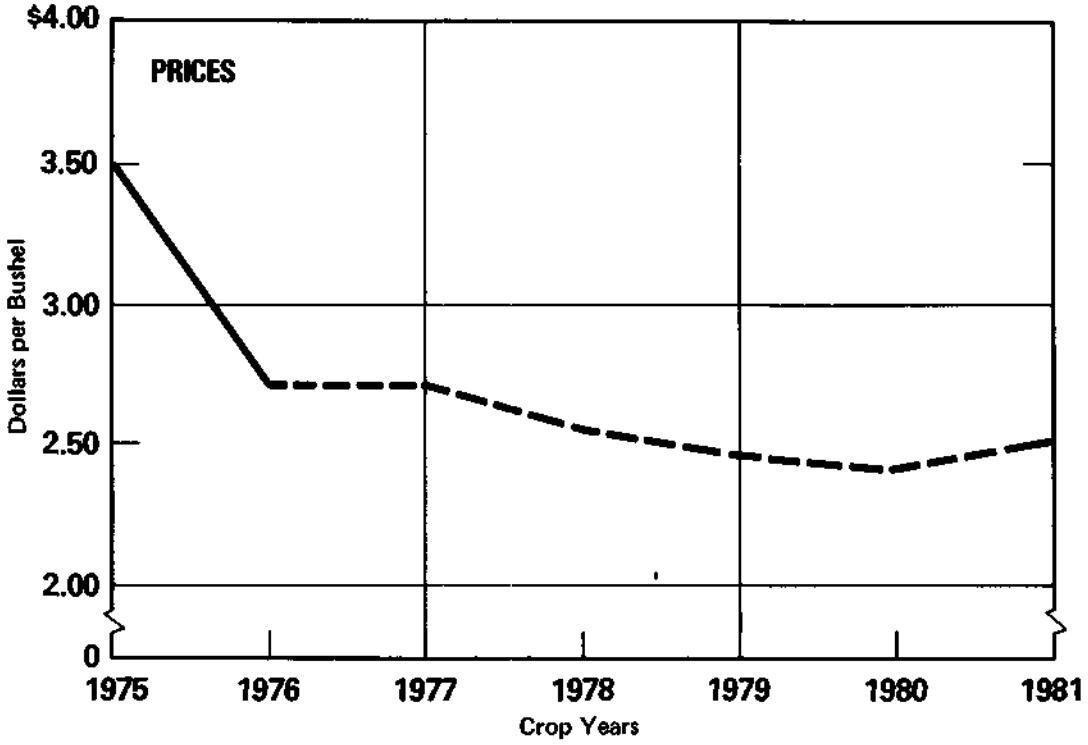
THE OUTLOOK UNDER CONDITIONS OF ABNORMAL WEATHER AND UNEXPECTED FOREIGN DEMAND

The projections in Table 1 are based on a number of assumptions about yields and export demand, both of which are affected by weather. Additionally, exports are sensitive to policies of foreign governments. Since significant deviations (increases as well as decreases) in yields and exports can substantially change projected prices, incomes, stocks, food prices, and government costs of commodity programs, alternative scenarios are extremely important to consider. In Table 2 (see also Figure 10 for wheat projections) two alternatives are presented for the 1978, 1979, and 1980 crop years:

- o High yield/low exports. Corn yields are near the 1972 record level of 97.0 bushels per acre

Figure 9

Prices and Ending Stocks of Wheat, CBO Base Projections



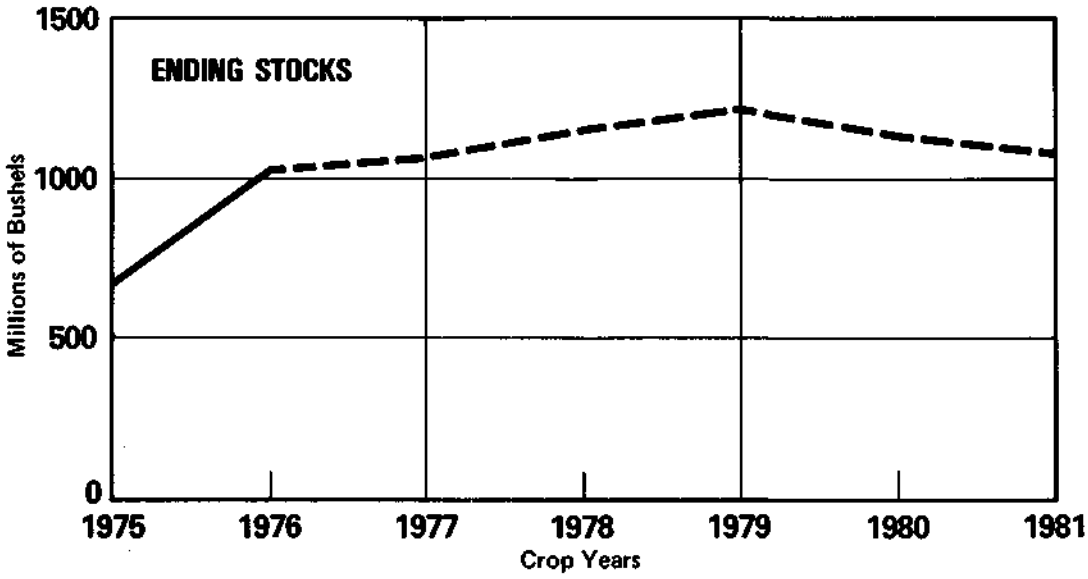


TABLE 1. CBO BASE PROJECTIONS, a/ BY CROP YEARS

Item	1977	1978	1979	1980	1981
Average Farm Price					
Wheat ($/bushel)	2.70	2.55	2.45	2.40	2.50
Corn ($/bushel)	2.10	2.05	2.05	2.00	2.10
Ending Stocks					
Wheat (millions of bushels)	1,054	1,136	1,206	1,120	1,067
Corn (millions of bushels)	451	628	752	645	615
Exports					
Wheat (millions of bushels)	1,092	1,178	1,229	1,397	1,434
Corn (millions of bushels)	1,477	1,573	1,710	1,979	2,126
Farm Income (billions of dollars)	23.3	22.9	23.4	24.6	24.5
CPI Food Component, Average Annual Change (percent)	3.7	3.7	3.7	3.7	3.7

a/ The CBO base projections assume a continuation of current policy and normal weather, i.e., there are no erratic changes in yields or exports. This scenario depicts likely price and income results under these conditions. The Data Resources Incorporated (DRI) agriculture model was used to estimate the CBO base projections and alternative scenarios.

and grain exports decline from the base level to 1976/77 levels.

- Low yield/high exports. Corn yield in 1978 falls 12 percent from previous year, similar to the effect of corn blight in 1970, and increases in 1979 but remains below base yield. Wheat yield falls in 1978 about the same percent from the previous year as in 1974 (the lowest since 1967), and increases in 1979 to a level below the base

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yield. Total grain exports increase even though higher prices result from reduced supplies.

Of the two alternatives, the high yield/low export scenario is more likely. As shown later, the budget outlays for commodity programs are sensitive to these kinds of changes.

Under the high yield/low exports scenario, grain prices and farm income over 1978 to 1980 are lower, and grain stocks higher relative to the base projection. Food prices are slightly lower in 1980 reflecting lower livestock prices resulting from increased livestock production stimulated by the lower grain prices. In contrast, the low yield/high export scenario shows higher farm prices and incomes and lower grain stocks. The substantially higher farm prices cause food prices to be 2.0 to 2.5 percent higher in 1979 and 1980 relative to the base projection.

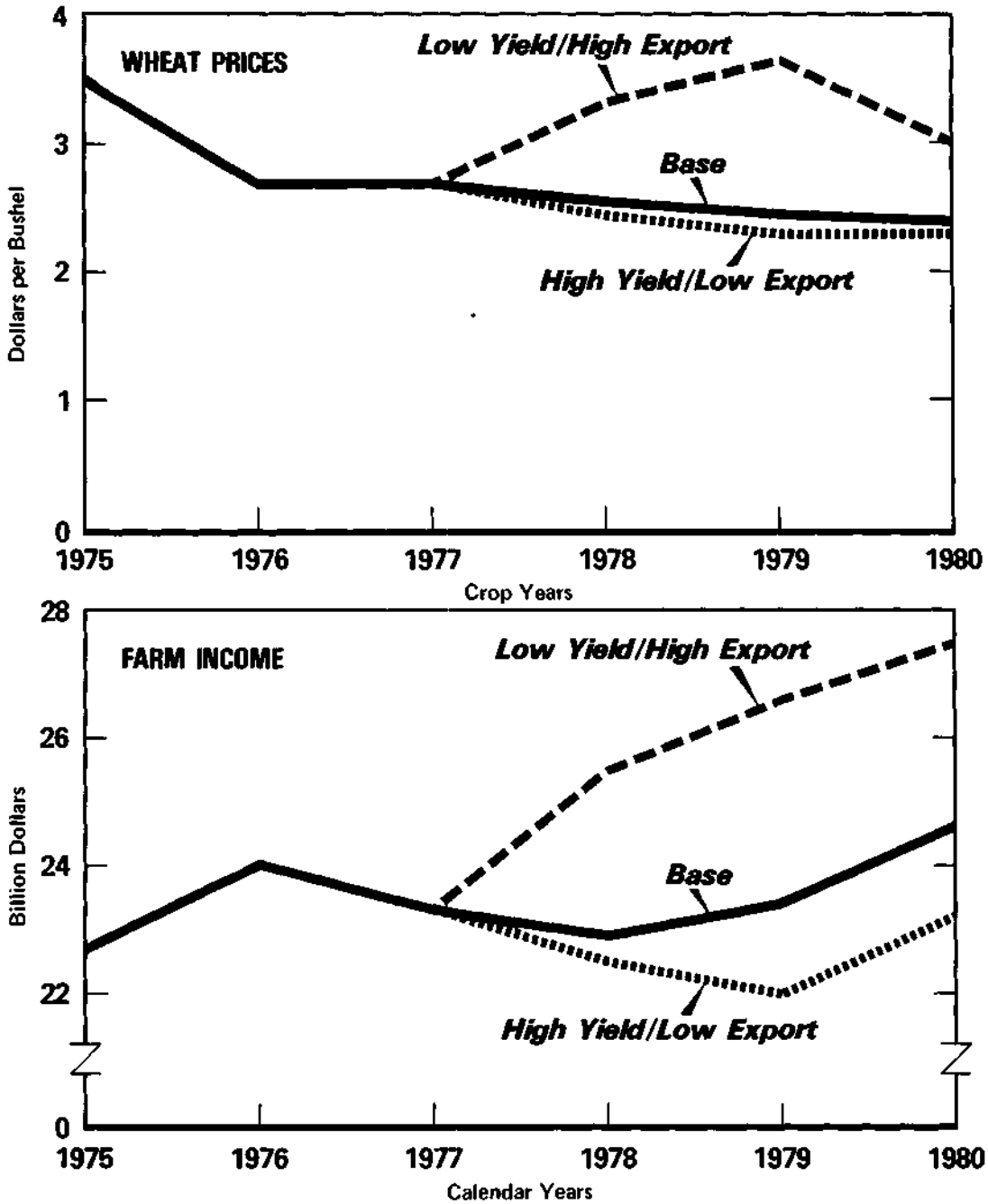
TABLE 2. ALTERNATIVE SCENARIOS FOR CROP YEARS 1978, 1979, a/ AND 1980

Scenario	1978	1979	1980
High Yield/Low Export			
Average Farm Price			
Wheat (dollars per bushel)	2.45	2.30	2.30
Corn (dollars per bushel)	1.93	1.90	1.95
Ending Stocks			
Wheat (millions of bushels)	1,229	1,346	1,186
Corn (millions of bushels)	674	783	661
Exports			
Wheat (millions of bushels)	1,085	1,147	1,418
Corn (millions of bushels)	1,482	1,615	2,009
Farm Income (billions of dollars)	22.5	22.0	23.2
CPI Food Component (% change from base)	0.0	0.0	-0.4
Low Yield/High Export			
Average Farm Price			
Wheat (dollars per bushel)	3.31	3.65	3.00
Corn (dollars per bushel)	2.70	3.00	2.50
Ending Stocks			
Wheat (millions of bushels)	834	755	959
Corn (millions of bushels)	390	350	400
Exports			
Wheat (millions of bushels)	1,279	1,315	1,294
Corn (millions of bushels)	1,517	1,609	1,909
Farm Income (billions of dollars)	25.5	26.6	27.5
CPI Food Component (% change from base)	0.0	+2.5	+1.9

a/ The high yield/low export scenario depicts the effects of higher corn yields relative to the CBO base projections and lower wheat and corn exports in 1978 and 1979. The low yield/high export scenario assumes substantially lower corn and wheat yields in 1978 and 1979, along with higher wheat exports.

Figure 10

Wheat Prices and Farm Income Under CBO Base Projections and Alternative Scenarios



PRICE SUPPORT PROGRAM LEVELS

Since the early 1930s, the federal government has administered a succession of programs designed to support and stabilize farm prices (with related effects on the level and stability of farm incomes). These programs owe their existence to the uniqueness of the agricultural economy. Over most of this period, the agriculture sector has been inherently unstable and prone to overproduction. Through a combination of price supports, production allotments and quotas, land diversion, and surplus disposal techniques, the federal government has sought to keep supply and demand in balance at a level of prices that would maintain an efficient farm sector.

Since 1973, such measures have been inoperative for most of the major commodities, since supplies have been tight and farm prices have been unusually high. However, as noted above, these prices are now on a downtrend. Furthermore, costs of production have risen sharply and, though their rate of increase has slowed, will likely continue rising.

Target Price Program (Deficiency Payments)

The 1973 Agriculture and Consumer Protection Act established a "target price" concept for wheat, feedgrain, and cotton farmers, and the 1975 Rice Production Act did the same for rice producers. Under this concept, farmers meeting certain eligibility criteria receive direct payments, called deficiency payments, if the average market price is less than the target price. The size of payment for each farmer is the difference between the target price and market price 1/ multiplied by expected

1/ Actually, as noted later, the difference that matters is the smaller of the target price minus the market price or the target price minus the loan rate.

production on a specified number of acres (the allotment). That, in turn, is based on the farmer's historic cropping pattern. Because of the allotment, normally only a portion of a farmer's production is covered by deficiency payments.

Target prices provide farmers with some protection against income loss. How producers view the income protection afforded may affect production and prices, particularly over a longer-run period. Since 1973 market prices have been substantially above target prices, thus no deficiency payments have been made to wheat, feedgrain, and cotton farmers and there has been little impact on production decisions. Rice producers, however, will receive deficiency payments on the 1976 crop, the first year of the new program.

Loan Program

In addition to income protection afforded by target prices, these commodities are also covered by more traditional price support (loan program) mechanisms. Under these, farmers may place any portion of their production under government loan in approved on- or off-farm storage. Under the 1973 Act, the Secretary of Agriculture is granted broad discretionary powers in setting the loan rate, that is the price at which commodities are valued for loan purposes. Usually, eligible farmers have 8 to 10 months after harvest to place commodities under loan, and the loan period runs 12 months. At the end of the loan period a farmer has essentially two options; repay the loan with interest, or forfeit the stored commodity, thus satisfying the obligation and in fact accepting the "loan" as payment for the stored crops. (In the past the Secretary of Agriculture offered, and still can, a third option to "reseal"--whereby the government permits farmers to keep commodities under loan beyond the initial loan period. This kept prices from being further depressed by additional supplies but also prolonged supply adjustments.) The key factor affecting the farmer's choice is the relationship between the market price and loan rate. In effect, the loan rate provides a minimum or floor price to farmers.

Loan rates can affect production and prices, though in recent years they too have had little influence. Since farmers make production decisions based on current prices and future price expectations, if loan rates are substantially below these levels, they are not critical to farmers' decisions. Conversely if loan rates are near current prices and expected prices they can have a direct impact on production decisions, by greatly reducing price uncertainty. If set too high vis-a-vis world prices, loan rates may interfere with U.S. farm exports (by causing U.S. commodities to be uncompetitive and by providing incentives for higher production by other exporting countries). In this case the government provides a higher price than can be obtained in the world market. Historically, export subsidies (over $300 million annually at peak levels) were required to enable exporters to sell U.S. farm products abroad.

Under current legislation, where both target price and loan programs are in effect at the same time, budget costs and the extent of governmental interference in commodity markets depends critically on the level of target prices and loan rates relative to market prices and relative to each other. High target prices and low loan rates, relative to expected market prices, increase the likelihood and size of expected deficiency payments. Raising the loan rate in this situation will decrease the risk of large deficiency payments, but increase the likelihood of loan activity. The net outlay effect of loan programs depends on the quantity placed under loan and repayments. 2/ There is a key difference in the way target price and loan rate programs provide for stabilization. Target prices provide income protection without interfering with market prices and the allocation of final products, and without causing the government to

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2/ For example, when a farmer places a commodity under loan, there is an outlay in that fiscal year; when the loan is repaid, including interest, in the same or following fiscal year, there is a receipt. In a given fiscal year, both outlays and receipts occur. If a farmer elects not to pay off the loan and thus forfeits the commodity, the government has no receipts until the commodity is sold, and while held, interest, storage, and handling costs accrue.

acquire stocks. On the other hand, loan rates can have a direct and major effect on market prices for individual commodities as well as on the relationship among relative commodity prices that are critical to resource allocation within agriculture. Further, loan rates can interfere with exports (and foreign exchange earnings) that are extremely important to full utilization of agricultural resources.

WHEAT, FEEDGRAINS, AND COTTON

Adjusting Loan Rates and Target Prices

Target prices were set by law for 1974 and 1975 with provision for change in 1976 and 1977 based on changes in yields and changes in the Index of Price Paid by Farmers for Production Items, Interest, Taxes, and Wage Rates. Use of the index for this purpose has proven to be inappropriate for several reasons. It does not include land costs, which is viewed by some as a serious omission. On the other hand, the index includes several items, such as feed costs and the cost of feeder cattle, that are unrelated to the cost of producing grain or cotton, but carry a heavy weight in the index.

Loan rates for grains under the 1973 Act are largely at the discretion of the Secretary of Agriculture, with minimum levels spelled out by law, and maximum levels established in terms of parity prices. 3/ In 1974 and 1975, wheat and feedgrain loan rates were at the minimum levels; in early 1976 they were increased 10 and 14 percent respectively (by the Secretary of Agriculture) roughly in proportion to legislatively required target price increases. In October 1976, wheat and feedgrain loan rates were increased further--50 percent for wheat and 20 percent for feedgrains.

3/ A parity price is a price that gives a unit of commodity, such as a bushel of wheat, the same purchasing power as in 1910-1914.

An alternative method for setting and adjusting target prices and loan rates is to tie them to measures of the cost of production. Since enactment of the 1973 Act, farm production expenses have increased sharply. For example, from 1973 to 1975 prices paid for fertilizers, fuels and energy, and farm machinery, increased 112, 52, and 40 percent, respectively. Average farm real estate values per acre increased by over 60 percent in some corn belt states. Cash rents, in response to higher land values, increased in some areas 60 to 70 percent.

Though production costs have increased, there are problems in using production costs to set target prices and loan rates. Production costs are highly variable among farms and regions. Differences in farm size and management skills affect production costs importantly. Productivity, a key determinant of production costs, is affected by management, weather, and soil type. Land values are affected by the local demand for nonagricultural land, farm prices and income, inflation (as farm land is used as a hedge), location, productivity, and the willingness of farmers (for efficiency reasons) to pay more for land for add-on to current operations. Finally, land costs vary among farms depending on whether a farmer is a renter, has owned land for some time, or is a recent purchaser. Thus, "average production costs" would tend to be high for more efficient farmers, particularly those with larger farms, and low for inefficient and small operators. Consequently, target prices and loan rates based on average cost of production would benefit more the efficient and larger farmers.

If, in spite of these problems, production costs are used as an adjustor, a key question is what costs to include--direct costs (out-of-pocket) only, or also other costs such as overhead, management, and an allowance for land. Inclusion of land costs in a cost of production adjustor would probably, over time, lead to the capitalization of higher target prices and loan rates into land values. This further contributes to rising land values, property taxes, estate taxes, and mortgages, increased barriers to entry into farming, and higher overall production costs, particularly for renters. Ultimately, the comparative advantage of the United States in producing certain commodities could be eroded.

TABLE 3. TARGET PRICES AND LOAN RATES UNDER ALTERNATIVE OPTIONS, BY CROP YEARS (Dollars per bushel for wheat and corn; dollars per pound for cotton)

Option	1978	1979	1980	1981
TARGET PRICES				
Current Policy a/				
Wheat	2.51	2.64	2.68	2.75
Corn	1.75	1.82	1.82	1.87
Cotton	.49	.51	.52	.54
Cost of Production b/				
Current Land Value				
Wheat	3.64	3.81	3.98	4.18
Corn	2.48	2.60	2.72	2.85
Cotton	.64	.68	.72	.76
Average Land Value				
Wheat	2.70	2.80	2.91	3.01
Corn	1.85	1.93	2.00	2.08
Cotton	.56	.59	.62	.65
Emergency Farm Act of 1975 c/				
Wheat	3.82	4.01	4.09	4.20
Corn	2.85	2.96	2.96	3.04
Cotton	.58	.60	.61	.62
LOAN RATES				
Current Policy a/				
Wheat	2.25	2.25	2.25	2.25
Corn	1.50	1.50	1.50	1.50
Cotton	.41	.43	.44	.45
Cost of Production b/				
Current Land Value--				
80% of Target Price				
Wheat	2.91	3.05	3.18	3.34
Corn	1.98	2.08	2.18	2.28
Cotton	.51	.54	.57	.61
Average Land Value--				
80% of Target Price				
Wheat	2.16	2.24	2.33	2.41
Corn	1.48	1.54	1.60	1.66
Cotton	.45	.47	.50	.52
Emergency Farm Act of 1975 c/				
Wheat	3.08	3.23	3.29	3.36
Corn	2.36	2.45	2.45	2.51
Cotton	.49	.50	.51	.52

TABLE 3. Continued

a/ Target prices based on USDA-ERS projections. Loan rates for wheat and corn held at 1976 levels, though they could be increased at the discretion of the Secretary of Agriculture. Cotton loan rate from USDA-ERS projection.

b/ Target price set at 100 percent of unit cost of production with loan rate at 80 percent of that level. Production cost includes "direct costs" (includes machinery ownership and farm overhead) and land costs (ownership basis). Direct costs estimated from an USDA-ERS study (Costs of Producing Selected Crops in the U.S.--1975, 1976, and Projections for 1977) for 1977 and increased thereafter by the CBO projected rate of change in the GNP price deflator. Current land costs derived from the 1974 study (Costs of Producing Selected Crops in the United States--1974," prepared by the Economic Research Service, U.S. Department of Agriculture for the Committee on Agriculture and Forestry, U.S. Senate, January 8, 1975) with adjustments by changes in the farm real estate index to arrive at 1976 values. For 1977 and after, current land cost was escalated at 9 to 10 percent annually in relationship to changes in the GNP price deflator. The average land value was estimated each year at the same proportion of current land value as in the 1974 study.

c/ The Emergency Farm Act of 1975, vetoed by the President, would have raised the 1975 wheat target price from $2.05 to $3.10, corn from $1.38 to $2.25, and cotton from $.38 to $.45; and would have raised loan rates for wheat from $1.37 to $2.50, corn from $1.10 to $1.87, and cotton from $.34 to $.38. For 1976 and 1977 the 1975 values would have been adjusted as required under current policy. For 1976 and after the target prices shown here were estimated by using the same rates of change as under current policy (see footnote a above). Loan rates were maintained at the same proportion of target prices as in 1975.

Options

Certainly there are many options for setting and adjusting target prices and loan rates. This paper evaluates three: continuation of current policy, and two cost of production measures, one including current land values and another based on average land values.

Continuation of current policy uses the Prices Paid Index and changes in yields to adjust target prices in 1978 and after. For the cost of production options, target prices are 100 percent of the unit production cost, with loan rates at 80 percent of target prices (see Table 3). Cost of production excludes management costs, but includes direct costs, farm machinery costs, farm overhead costs, and land costs calculated on an ownership basis for both current and average land values. Current land value is the value of farm real estate at the present if it were sold. Average land value is a measure of the value of real estate based on initial purchase price. Specifically, the total nonland costs (direct, farm machinery, and farm overhead costs) are from a United States Department of Agriculture, Economic Research Service (USDA-ERS) study for 1977, and increased thereafter by the CBO projected rate of change in the GNP price deflator. Land costs on an ownership basis (land value times interest rate) were estimated for 1977 from a 1974 USDA study and adjusted to 1976 levels by changes in the farm real estate index. For 1977 and after, land cost was escalated at 9 to 10 percent annually in relation to projected changes in the GNP price deflator. Total nonland and land costs were divided by yields to derive unit costs. There are other methods for estimating land costs, for example, a "composite basis" (actual combinations of cash rent, net share rent, and owner-operator land allocations). S.275, introduced on January 18, 1977, uses this method.

The projected deficiency payments for each of these options are shown in Table 4, using CBO base projections of farm prices. This shows that:

- Under current policy, deficiency payments would be made only for wheat, increasing from $100 million in fiscal year 1979 to $700 million by fiscal year 1982.

TABLE 4. PROJECTED DEFICIENCY PAYMENTS FOR ALTERNATIVE METHODS OF SETTING TARGET PRICES AND LOAN RATES UNDER CBO BASE PROJECTIONS, a/ IN BILLIONS OF DOLLARS, BY FISCAL YEAR

Method	1978	1979	1980	1981	1982
Current Policy					
Wheat	0.0	0.1	0.4	0.6	0.7
Feedgrains	0.0	0.0	0.0	0.0	0.0
Cotton	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.1	0.4	0.6	0.7
Cost of Production, Current Land Value					
Wheat	1.3	1.4	1.5	1.5	1.7
Feedgrains	1.5	1.9	3.3	3.6	3.6
Cotton	0.1	0.3	0.6	0.8	0.8
Total	2.9	3.6	5.4	5.9	6.1
Cost of Production, Average Land Value					
Wheat	0.0	0.5	0.7	1.1	1.2
Feedgrains	0.0	0.0	0.0	0.1	0.2
Cotton	0.0	0.0	0.2	0.3	0.4
Total	0.0	0.5	0.9	1.5	1.8
Emergency Farm Act of 1975					
Wheat	1.3	1.2	1.5	1.6	1.7
Feedgrains	3.3	3.0	3.2	3.3	3.5
Cotton	0.0	0.0	0.3	0.3	0.3
Total	4.6	4.2	5.0	5.2	5.5

a/ Allotments are held at 1976 levels throughout period with yields increasing moderately each year. Thus the payment base (allotment times yield) increases gradually. Estimates adjusted for effect of payment limitation of $20,000 per farm.

- For the cost of production (current land value) option, payments would be made for all commodities, increasing from $3.6 billion in fiscal year 1979 to $6.1 billion in fiscal year 1982.

- Under the cost of production (average land value) option, payments range from $500 million in fiscal year 1979 to $1.8 billion in fiscal year 1982.

Figure 11 illustrates the impact on projected deficiency payments of the alternative yield/export scenarios.

The options considered here assume that loan rates are adjusted upward as target prices are increased. Since the loan rates set floor prices and deficiency payments are calculated on the basis of the smaller of the target price minus the loan rate or the target price minus the market price, adjusting the loan rate in this manner reduces the per unit deficiency payments. Thus, deficiency payments could be substantially larger under the cost of production target price schemes if loan rates were not adjusted upward in proportion to target prices. For example, in fiscal year 1980 under the cost of production (current land value) option, deficiency payments would be 30 percent larger if the loan was maintained at the level under current policy.

In addition to the estimated deficiency payments, other budget costs would be incurred because of the high loan rates. These costs would include loan outlays, actual acquisition of government stocks, and, potentially, export subsidies. For example, loan rates for wheat at 80 percent of the cost of production (current land value) over the 1978-81 crop years result in higher wheat production, largely because the loan rates set higher prices (relative to current policy). High prices diminish exports and, in the absence of production controls, cause government stocks to increase substantially. Virtually all the increase, at least 1,000 million bushels by 1981, ends up in government hands. (See Table 5 which compares current policy for wheat with the cost of production/current land value option for target prices and loan rates.)

Figure 11

Projected Deficiency Payments for Alternative Target Prices and Loan Rates Under CBO Base Projections and Alternative Scenarios

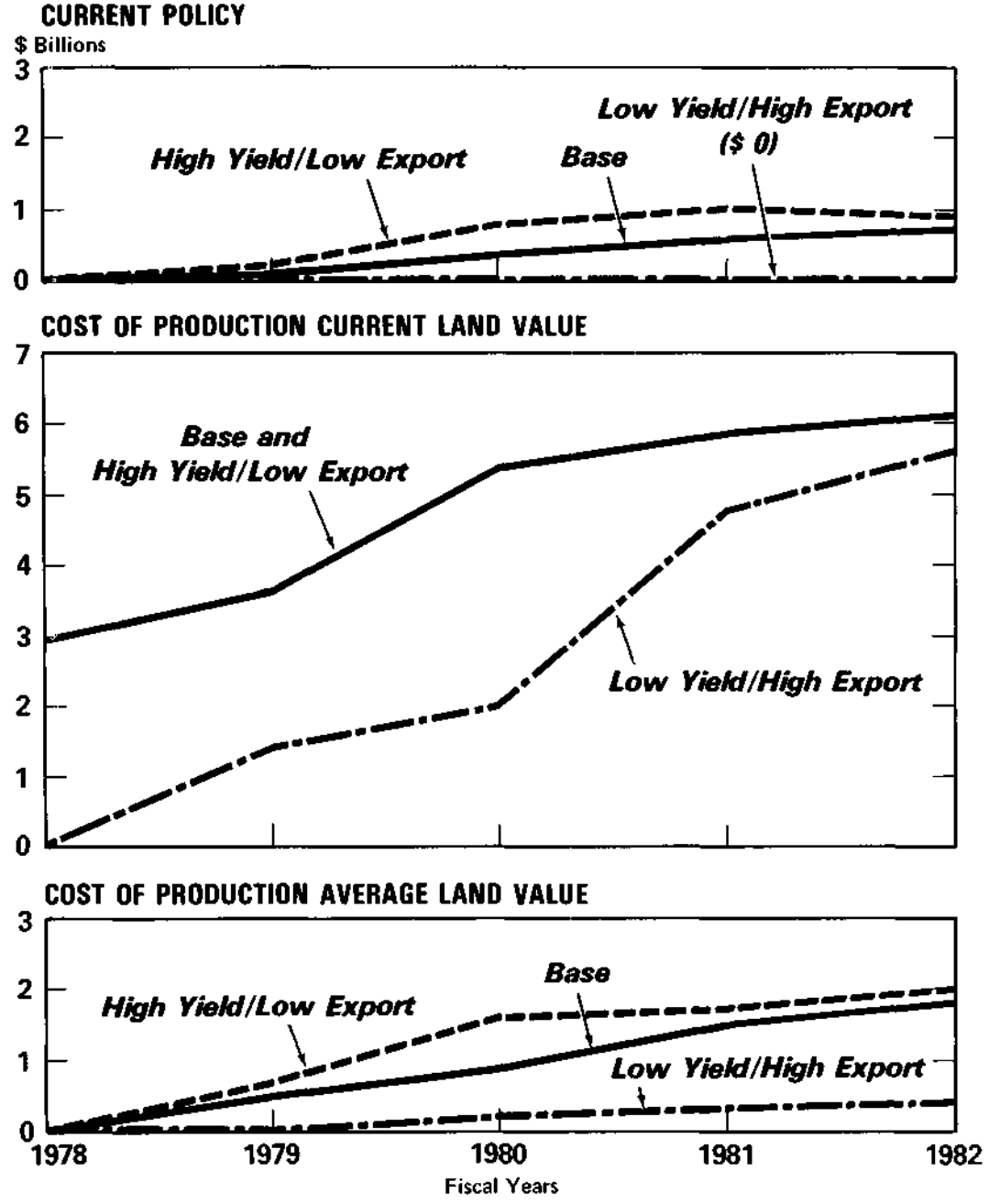


TABLE 5. COMPARISON OF CURRENT POLICY WITH COST OF PRODUCTION (CURRENT LAND VALUE) ALTERNATIVE FOR WHEAT, BY CROP YEARS

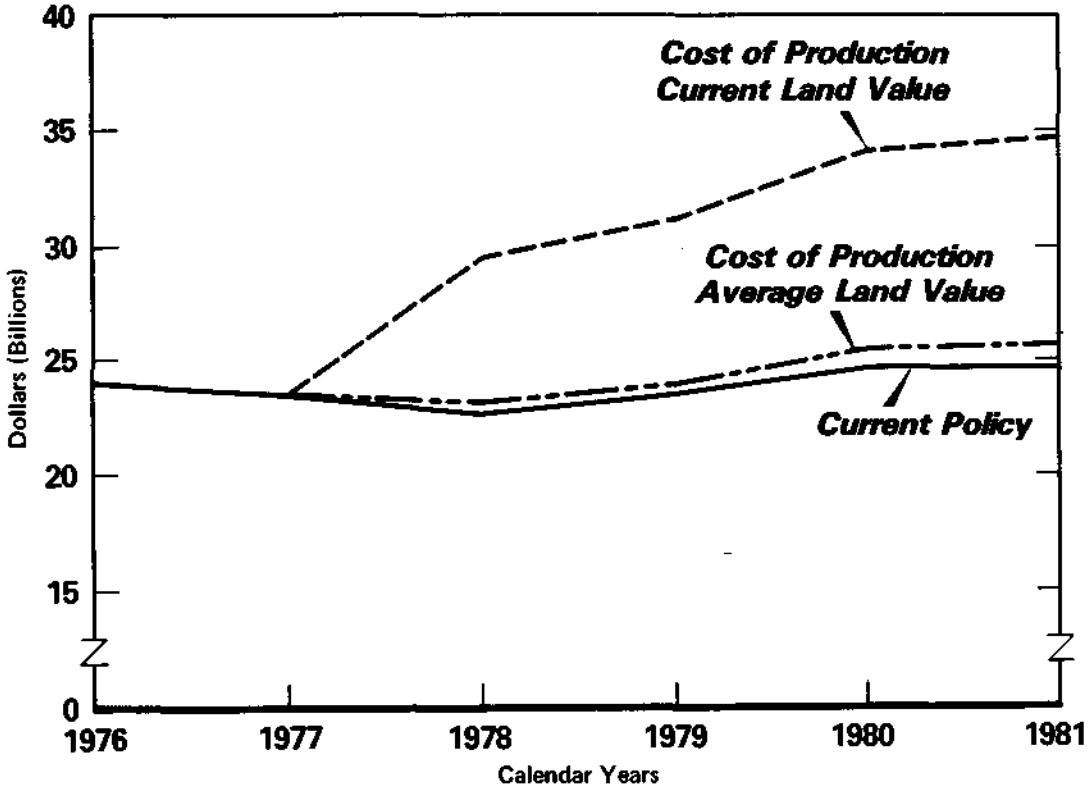
Option	1978	1979	1980	1981
Current Policy				
Production (millions of bushels)	2,116	2,167	2,219	2,258
Exports (millions of bushels)	1,178	1,229	1,397	1,434
Stocks (millions of bushels)	1,136	1,206	1,120	1,067
Government	(0)	(0)	(0)	(0)
Private	(1,136)	(1,206)	(1,120)	(1,067)
Price (dollars per bushel)	2.55	2.45	2.40	2.50
Cost of Production Current Land Value				
Production (millions of bushels)	2,136	2,194	2,260	2,258
Exports (millions of bushels)	1,050	1,000	1,050	1,100
Stocks (millions of bushels)	1,281	1,570	1,880	2,138
Government	(131)	(350)	(730)	(1,038)
Private	(1,150)	(1,220)	(1,150)	(1,100)
Price (dollars per bushel)	2.91	3.18	3.34	3.45

These high loan rates could cause additional budget costs in two ways. First, if government stocks were allowed to accumulate, the gross outlay (over the period) for 1,000 million bushels of wheat would be $3.3 billion plus annual interest and storage costs. Second, it is likely that export subsidies would be required to keep U.S. wheat competitive in the world market. Without the subsidies, exports would probably not reach the level shown in Table 5 for the loan rate scenario based on production costs. It is difficult to quantify the full budget effect of export subsidies for this alternative, given the complexity of the subsidy system and the dynamics of production response in other exporting countries. However, at a minimum, if export subsidies were used as an option to government stock accumulation, export subsidies would be about $800 million over the period. As a practical matter, both export subsidies and government stocks would be a likely outcome.

The effects on farm income of continuation of current policy and the two options for setting target prices and loan rates based on costs of production are shown in Figure 12. Farm income using cost of production (current land value) is substantially higher due to two factors: (1) large deficiency payments (see Table 3); and (2) higher prices due to high loan rates. In addition to effects on the budget, foreign exchange earnings, and farm income, the cost of production (current land value) option results in food prices over 1979 to 1981 being about 1.0 percent higher than with continuation of current policy.

Figure 12

Projected Net Farm Income, Including Deficiency Payments for Alternative Target Prices and Loan Rates



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Alternative Forms of Support

Despite the experience of the past few years, it is clear from the preceding discussion that the deficiency payments provision of the 1973 act can result in substantial budget costs, although it allows some stabilizing of farm income without interfering with market prices like the government programs of the 1950s and 1960s. Another stabilization option is to revert to the use of price supports alone, eliminating the target price provisions of the 1973 Act. If this option were chosen, the primary issue would be at what level to set loan rates and how to adjust them. The implications of high loan rates for government stock accumulation, loan outlays, export subsidies, and domestic food prices were spelled out in the previous section. Farm income with loan rates at 80 percent of cost of production (current land value) would be about 20 percent higher by 1981 than under current policy.

A return to loan rates as the primary means of stabilizing farm income would increase the likelihood of accumulating government stocks and interfering with market prices and exports. However, that need not be the case. The effective use of acreage controls or other supply limiting mechanisms, in conjunction with price supports, to minimize government stock acquisition and costs, and the setting of loan rates, so as not unduly to interfere with exports, could provide farmers with substantial price certainty.

Yet another option that would substantially diminish the federal role in price determination would be the use of target prices only, thereby eliminating loan programs. While this option would take the government out of the business of automatically being the "buyer of last resort," direct purchases, at times, might be used to drain off excessive grain supplies. However, such actions would not be mandatory. This option would let "market forces" operate freely on the downward movement of prices, though the limit on upward price movements would be determined by grain reserve and export control policies.

Production Controls

Controls on acreage in various forms were used from the mid-1950s to 1973 as another means of supporting prices and incomes by reducing supplies. Past programs, even though not fully effective, demonstrated that acreage controls can reduce output and provide a reserve of land resources. At current prices, with no acreage diverted under government programs, there is little flexibility for bringing more acreage into production. Thus, as an option, acreage controls are likely to be useful primarily in the event of future depressed prices. For example, it seems likely that acreage controls might need to be considered in the next year or two, particularly for wheat. The 1973 act provides authority to require farmers to set aside a part of their allotment acreage to be eligible for deficiency payments. They may also be offered further compensation for the voluntary diversion of additional acreage.

The U.S. experience with acreage controls indicates there was considerable "slippage" in past programs since there was no reduction in production of controlled crops corresponding to acreage diverted. Acreage diversion programs were only 50 to 60 percent effective in reducing crop acreage from what it would have been if no acreage control programs had existed. In many instances, land not normally counted as part of the cropland inventory qualified as diverted acres; and some land in the inventory was land that was not planted every year, for example fallow land. Second, the land diverted was generally not as productive as nondiverted acres. In addition purchased items, such as fertilizer, chemicals, energy, and machinery, have increasingly become more important in affecting total output, thus substituting for land. This suggests that future acreage controls, if needed, will have to be designed to account for these factors, if controls are to be effective in reducing production.

While acreage controls have been used almost exclusively as the mechanism for controlling excess production, several alternatives have been discussed. Critics of land diversion have pointed out that diverted farm land has almost no value in alternative uses, while the various production inputs farmers use to substitute for reduced

land, for example fertilizer and energy, may have many other valuable uses. In some cases, because of governmental regulation or market imperfections, the prices of these inputs may be below their value in other nonfarming uses, leading farmers to bid them away from these more productive uses. This may be the case for certain energy inputs and fertilizers. Thus, an economically sensible alternative to acreage controls might be some limit on another element--a tax on fertilizer is one (unpopular) suggestion that has been advanced.

Administration of Stocks

As noted, the level at which loan rates are set and how they are adjusted over time determines the degree of government stock acquisition. Currently, there are virtually no government wheat or feedgrain stocks though the government has a substantial stock of rice. At issue is how stocks should be administered if they accumulate. Historically, government grain stocks were generally sold at 115 percent of the loan rate or disposed of through concessional sales and donations. This reflected a primary emphasis on reducing government stocks and associated costs. If instead, government stocks acquired under the loan programs were to be used to achieve upward as well as downward price stability, the release price should probably be set substantially higher than this. A tradeoff exists between minimizing budget costs by disposing of stocks as quickly as possible, and the net benefit of holding stocks over a period of time for use in reducing price instability. (See page 59 for a fuller discussion of this issue.)

RICE, DAIRY PRODUCTS, AND PEANUTS

While debate over new commodity legislation--and major potential budget costs--will involve primarily wheat, feedgrains, and cotton, other commodity programs are also likely to face important decisions. This section deals briefly with each of the other commodities likely to be affected. It describes the current programs, the likely options, and the potential budget consequences for rice, dairy products, and peanuts.

Rice

Prior to the 1976 crop, the rice program was governed by the provisions of the Agricultural Adjustment Act of 1938 and the Agricultural Act of 1949. Under these laws the Secretary of Agriculture was empowered to control production through the use of marketing quotas. Whenever supplies were expected to exceed demand, marketing quotas were proclaimed, and if endorsed by the growers in a referendum, were enforced through the imposition of monetary penalties on any production in excess of grower allotments. Price support was provided through a loan and purchase program in which support levels were set between 65 and 90 percent of parity. The support rate was held at the legal minimum of 65 percent between 1968 and 1975, the year the program was amended.

Throughout most of the life of the old program, supplies and prices were reasonably stable and government-held stocks were relatively small. This stability, however, was due in part to export subsidies which kept U.S. rice competitive in the world market and heavy use of the foreign assistance programs for the disposal of surplus production. In fact, most outlays for rice since 1961 have been for the P.L. 480 3/ and export subsidy programs.

The Rice Production Act of 1975 suspended the marketing quotas and support prices of the old program for the 1976 and 1977 crops and enacted a target price and loan scheme similar to the system established for wheat, feedgrains, and cotton under the 1973 act. With marketing quotas suspended, rice may be produced by anyone in any amount. Deficiency payments, loans, and purchases can be made only on the production derived from a participant's

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3/ P.L. 480 (Agricultural Trade Development and Assistance Act of 1954) authorizes concessional sales of agricultural commodities (low interest and long repayment periods) under Title I and donations under Title II. Exports of rice under Title I have accounted for, at times, over half of United States rice exports. Though the United States produces only a very small percentage of world rice production, it accounts for over a fourth of world rice trade.

allotment, and like the major commodity programs, producers remain eligible for benefits even if they plant beyond their allotments or plant another crop in place of rice. Though rice producers may be required to set aside 30 percent of their acreage allotment (but other cropland can be planted in rice to offset it), they cannot be required to restrict their rice acreage in order to maintain eligibility for benefits.

Although the new program is less than one year old, information is available to estimate its current impact on the federal budget. Even though planted acreage is below the 1975 level and the current loan rate is about 30 percent less than the rate that would have been authorized by the old legislation, large reductions in cost are not expected under the new program. Because of the existence of large carryover stocks of rice, domestic supplies in crop year 1976 are at record levels. Consequently, market prices are expected to average about $6.50 per hundredweight, well below the $8.25 target price, resulting in deficiency payments of about $143 million in fiscal year 1977. With CCC sales and loan activity included, net outlays for fiscal year 1977 will total about $170 million. An additional expenditure of $164 million is also expected for fiscal year 1977 due to P.L. 480 activity.

Since the 1975 Act expires after the 1977 crop, new legislation must be enacted or the program will revert to the 1938 and 1949 legislation. The apparent options are to extend the 1975 Act, modify it, or return to the old program. The approach adopted has significance not only for the budget, but also for production, exports, and expected prices.

If the existing program is continued, market prices and the level of deficiency payments will depend heavily on world production. Tight world supplies may result in a strong export demand and prices above the U.S. target level. If world production is plentiful, prices are likely to be below the target price, perhaps as low as the loan rate, with deficiency payments possibly exceeding $150 million. In such a situation export subsidies or concessional sales (P.L. 480) will be required to balance demand with prospective supplies.

With relatively normal weather, deficiency payments may decline below the fiscal year 1977 level, but are likely to reach $120 million in fiscal year 1978 and $100 million in fiscal year 1979 as is shown in Table 6. These payments are consistent with market prices of $7.00 and $7.50 per hundredweight, respectively. Deficiency payments may continue at about the $100 million level beyond fiscal year 1979, but will depend upon prices of competing crops in the United States and world rice supplies.

Relatively large deficiency payments for the 1976 crop ($146 million) and the possibility that these may continue have raised questions about the appropriate level of support. At issue is whether the initial target prices and loan levels were set too high. One measure of the degree of income protection provided by a commodity program is a comparison of the ratios of target prices to costs of production. For rice, the 1976 target price is equal to 103 percent of the total cost of production, including the current value of land. In contrast, the target price for wheat is about two-thirds the total cost of production. If target prices were set at two-thirds the total cost of production for rice, they would be $5.38 per hundredweight in 1976, $5.48 in 1977, and, increasing at a rate of about 5 percent annually, $6.67 in 1981. It is likely that these target prices would be below expected market prices, so that no deficiency payments would be made (see Table 6). In addition, outlays for P.L. 480 might be curtailed without jeopardizing operation of the rice program.

If the existing legislation is not extended, it is likely that loan rates for the 1978 crop would be set at the old legislative minimum of 65 percent of parity, about $9.30 per hundredweight, and domestic prices would be at levels significantly above the world price. Marketing quotas would probably be reimposed. Surplus disposal would be a problem since the high U.S. price relative to world rice prices would discourage commercial or concessional exports in the absence of export subsidies. If export subsidies were used as in the past, expenditures on price support activities would be around $60 million in fiscal year 1979 (see Table 6).

TABLE 6. BUDGET OUTLAYS FOR ALTERNATIVE RICE SUPPORT PROGRAMS FOR FISCAL YEARS 1978 AND 1979, IN MILLIONS OF DOLLARS

Program	1978	1979
Present Program Continued		
Deficiency payments and loans	120	100
PL-480 a/	200	215
Total	320	315
Lower Target Prices		
Deficiency payments and loans	0	0
PL-480 a/	200	215
Total	200	215
Reversion to Pre-1976 Program b/		
Loans and export subsidies	60	60
PL-480 a/	255	265
Total	315	325

a/ The quantity of rice exported through PL-480 was assumed constant for both years regardless of the option. The actual amount exported is a policy decision that would affect expenditures accordingly.

b/ Without new legislation, the program will revert to the former program for the 1978 crop, costs for which would occur in fiscal year 1979.

Dairy Products

Operating under the 1973 Act and prior legislation, price support is provided for milk through two programs administered by federal agencies: the Commodity Credit Corporation (CCC) support program for manufacturing milk and milk products, and marketing orders administered by the Agricultural Marketing Service for fluid (bottled) milk. In addition, import quotas on dairy products are imposed to support prices and facilitate operation of the dairy program. These programs stabilize milk prices

during the year and work to assure an adequate supply. They also tend to increase the total cost of milk to the consumer, and in some years involve heavy budget costs. An issue likely to be discussed in the upcoming months is the level of support that should be provided for manufacturing milk. Since the manufacturing price indirectly sets the price of fluid milk, the resolution of the issue will affect the prices received by farmers for all milk and prices paid by consumers for milk and milk products. A subsidiary issue that may receive some attention is the frequency with which the USDA must adjust the support price. It is possible that legislation will mandate quarterly or semi-annual adjustments. 4/

The CCC support program fulfills the legal requirement for the Secretary of Agriculture to support the price of milk at between 75 and 90 percent of parity. This support is provided by the CCC's willingness to purchase unlimited quantities of milk products (butter, American cheese, and nonfat dry milk) at prices that assure farmers will receive at least the support price for manufacturing milk. This support also tends to smooth prices during the course of a year from a potentially volatile situation due to seasonal fluctuations in production. Any stocks acquired through the support program are distributed through domestic and foreign food programs. The CCC has removed milk products from the market every year since the program began and removals totaled 4 percent of production during 1969-74. Annual net outlays on support activities during this period averaged $250 million.

The minimum price paid by processors of most of the fluid milk used in the United States is governed by regulations promulgated by marketing orders. Minimum prices for each geographic area are based on a specified margin over the manufacturing milk price in Minnesota and Wisconsin (M-W), the most important area. An increase in the CCC support price will assure a higher price paid for manufacturing milk in M-W which also guarantees a

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4/ The USDA has been making quarterly adjustments this marketing year, rather than annual adjustments which was their usual procedure.

higher price for fluid milk since the fixed differential is retained. Maintaining a two-price system for milk is a means to assure an adequate supply of fluid milk in all seasons and to increase producer revenues, but the cost to the consumer is also increased.

Setting the support level has been a critical issue for many years and the level chosen can have far-reaching effects. A change in milk support level often has an immediate impact upon producers and the results are probably felt more quickly by consumers than changes in any other commodity program. An increase in the level of support when prices are at or near the support level will within a short time lead to: (1) an increase in the prices received by farmers which tends to raise production and farm incomes, (2) a decrease in the commercial consumption of milk products, (3) a decrease in the consumption of fluid milk, (4) an increase in CCC purchases of milk products, and (5) higher budget costs. When demand is adequate, so that the manufacturing price is above support and CCC is not purchasing milk products, a higher support price may not have any immediate impact, but may be felt later if supply increases relative to demand. A decrease in the support, which is allowed only at the beginning of a marketing year, tends to have opposite effects to those outlined above.

A change in the support level also leads to results that may be felt over a long period of time. It may take several years for supply to respond fully to a support change. Consumers also may adjust their buying habits for several years after a price change. Production and consumption in any given year are, therefore, partly related to support prices of two or three years earlier.

The support program sometimes requires heavy government expenditures to purchase enough milk products to keep the price above support. The cost to the government is related to the level of support provided and supply-demand conditions. Support is currently being provided at 80 percent of parity, above the 75 percent minimum required by law. Legislation has at times required an 80 percent support level. Proposals have been advanced that would raise the minimum from 75 percent to either 80 or 85 percent of parity. S.J. Res. 121, passed by the last session of Congress but vetoed by the President,

called for support at 85 percent of parity. The projected budgetary impact of raising the support level (outlays for dairy would have increased over $200 million in fiscal years 1976 and 1977) was one of the most important concerns in the discussion of the resolution.

Economic conditions also affect the cost of the milk support program. Milk production has increased substantially during the past year and prospects are for a continued seasonally adjusted gain in output through the 1977-78 marketing year (April 1977-March 1978). As a result, and regardless of the support level, it is likely the CCC will remove substantial quantities of milk products from the market over the next several months. Whether output and CCC removals will climb during the 1978 and following marketing years does, however, depend in large measure upon the support price in effect over the next year. At a support of 85 percent of parity, production gains are likely to exceed any increase in commercial use and CCC will purchase a substantial volume of products. CCC purchases will likely continue to be made with support at 80 percent but at a level well below that expected at the higher support price. A support equal to 75 percent of parity might lead to a supply reduction and minimal CCC purchases.

Projected budget costs for fiscal years 1977 and 1978 at three support levels are shown in the following table. A continuation of support at 80 percent of parity will cost about $400 million per year for purchases during fiscal years 1977 and 1978. If support is dropped to 75 percent of parity on April 1, 1977 (the earliest support can legally be dropped) expenditures are projected at $240 million in fiscal year 1977 and $115 million in fiscal year 1978. Conversely, if support is increased to 85 percent of parity on April 1, 1977 (the support could be raised at any time up to 90 percent of parity) purchase costs could average over $600 million for the two fiscal years. If lower production or higher commercial consumption than projected occurs, the budget costs will of course be lower. Even so these figures indicate that the dairy support level will continue to be a concern with effects upon producers, consumers, and the budget.

TABLE 7. BUDGETARY COST OF ALTERNATIVE SUPPORT RATES FOR DAIRY PRODUCTS FOR FISCAL YEARS 1977 AND 1978, ASSUMING ANNUAL ADJUSTMENTS, IN MILLIONS OF DOLLARS

Percent of Parity	1977	1978
75	240	115
80	370	415
85	510	725

Another option would be to adopt a target price concept for dairy products, and establish a support price that is expected to be below market price. In this situation deficiency payments rather than price support activity would provide the primary income protection for producers. Also, market prices would be allowed to allocate the product, with consumers of milk products benefiting from lower prices. To provide maximum savings to consumers, import quotas could also be raised or eliminated. No detailed estimates of the costs of this option have been made, and the outlays would depend upon the target prices and support, the quantity of production to be supported, and resolution of the import quota question. However, any increased budget costs would likely be more than offset by savings to consumers.

Peanuts

The peanut program was not included in the target price system established under the 1973 Act, but is governed by complex support mechanisms developed thirty years ago. The legislation requires the Secretary of Agriculture to proclaim marketing quotas if supplies are expected to be excessive and if the quotas are approved by growers, and to support prices between 75 and 90 percent of parity through commodity loans. Marketing quotas have been announced and approved every year since 1949 and are now enforced through a national acreage allotment set at the legal minimum. These provisions have

not allowed the program to adjust to the significant changes that have occurred in the peanut industry, particularly increases in yields and production.

At the present time, the loan rate for peanuts is $414 per ton, the minimum permitted by law. On the world market, however, peanuts are now being sold at about $300 per ton. This disparity in prices, along with the increase in yields and the fixed minimum acreage allotment, has resulted in large government stocks. Even with the poor 1976 crop yields, the Commodity Credit Corporation is expected to acquire about one-fifth of the total crop, or approximately 800 million pounds of peanuts.

The CCC can dispose of these stocks in two ways. It can sell the surplus in the domestic or export markets, or it can have the peanuts crushed into oil and meal for use in domestic nutrition or foreign assistance programs. Prior to 1974, the CCC recovered part of its investment through sales, ordinarily at prices lower than the loan rate. When world supplies of protein meals and vegetable oils were tight, as was the case in 1972 through 1974, the government was actually able to sell most of its peanuts at a price near the loan rate so that losses were small. In 1974, however, the Department adopted the so-called "minimum sales policy" which required sales at prices no lower than the support price. At about this time the value of peanuts for crushing dropped sharply, but U.S. supplies were at record levels. The combination of the change in resale policy and the decline in the crushing value resulted in a decline in CCC sales and a sharp increase in CCC net outlays. In the ten years preceding 1975 the average cost of the program was about $36 million per year. However, spending increased almost three-fold to more than $120 million annually in fiscal years 1975 and 1976.

In November 1976, the Department changed its resale policy again to allow CCC to sell its surplus for domestic crush and use only at the market price. Net outlays of $71 million are projected for fiscal year 1977 for the peanut program with the reduction in costs attributable to the poor 1976 crop and receipts from sales of peanut oil inventory. If the new sales policy is maintained, net outlays for the peanut program will likely increase

from about $120 million in fiscal year 1978 to $205 million in fiscal year 1982 as is shown in Table 8.

TABLE 8. NET OUTLAYS FOR ALTERNATIVE PEANUT SUPPORT PROGRAMS, FISCAL YEARS 1978 TO 1982, IN MILLIONS OF DOLLARS

Program	1978	1979	1980	1981	1982
Maintain Existing Program	120	136	155	177	205
Two-Price Program a/	NA	56	65	71	72
Target-Price Program b/	NA	84	89	96	103

a/ A program similar to H.R. 12808 considered in the 94th Congress beginning with the 1978 crop. Support on quota peanuts at 70 percent of parity with allotment set at 1.247 million acres.

b/ Target at cost of production (including current land value) with allotment set at 1.247 million acres beginning with the 1978 crop.

The rapid increase in costs in fiscal years 1975 and 1976 led to several legislative proposals aimed at revising the program, and although no changes were approved, a renewed effort is expected when the Congress considers farm legislation in 1977. Some of the possible modifications were included in H.R. 12808, the peanut legislation reported by the House Agriculture Committee last August. That bill would reduce surplus production and program costs by cutting the minimum acreage allotment by over 20 percent and by lowering the loan rate. Under the proposed program, anyone, including new producers, would be permitted to grow as large a crop as desired. Any production by nonallotment holders or by allotment holders in excess of their allotments could be sold for export and crushing or for the domestic edible market if

quota peanuts fell short of food needs. "Quota peanuts," grown on allotments, would be supported at not less than 70 percent of parity, but the price guaranteed for the nonquota production would be much lower (which is why the proposal has been called a two-price program). It would be set at the lower of 60 percent of the loan rate for quota peanuts, or 90 percent of their value for crushing and exports. The bill would also eliminate any administrative discretion in setting the sales price of surplus stocks. All surplus peanuts would be sold at competitive prices for crush or export.

Enactment of legislation similar to that reported last August would lead to a reduction in production, government outlays, and costs to consumers. Even though producers would be free to plant outside their allotments, current projections indicate that it would be unprofitable to plant at the expected prices. Government outlays under this program would be expected to increase slightly from $56 million in fiscal year 1979 (crop year 1978) to $72 million in fiscal year 1982, well below the costs of the current program (see Table 8). The lower support price on edible peanuts compared to the present legislation might save consumers about $45 million per year over the period of fiscal years 1979-1982.

Another alternative which may be considered in the 95th Congress is a target price program for peanuts similar to that enacted by the 1973 act for the major commodities. The expected results from adopting a target price approach depends a great deal upon the levels of the target price, loan rate, and allotment. The level of allotment is as important in controlling government outlays as the target price.

This paper evaluates one option: setting the target price at the cost of production including current land values (but excluding allotment rentals), with loans at 80 percent of target and the allotment at 1,247,000 acres (the same as in H.R. 12808) beginning with the 1978 crop. The target price under this alternative is projected to increase from 14.6 cents per pound for the 1978 crop to 16.0 cents in 1981. The loan rate rises from 11.7 cents in the first year to 12.8 cents in 1981.

Projecting the results of adopting a target price program is extremely difficult since major changes from the current program are entailed. The uncertainty in making these projections should be recognized when considering the following figures. Market prices are projected at slightly above the loan rate resulting in deficiency payments of about 2.5 cents per pound over the four-year period. These payments would total $84 million in fiscal year 1979 and reach about $100 million in fiscal year 1982 (see Table 8). However, due to lower market prices, this program could save consumers $300 million per year during fiscal years 1979-1982 compared to the present program and an additional $250 million savings over that available through the two-price program.

Commodity Policy Summary

For the most part, the legislative options discussed for farm commodities would initially affect the fiscal year 1979 budget. Table 9 provides a summary of current policy and alternative option budget costs for deficiency payments (wheat, feedgrains, and cotton), rice, dairy, and peanut programs. Because of the many possible combinations of optional programs, no total budget costs are given.

TABLE 9. PROJECTED BUDGET COSTS FOR MAJOR COMMODITY PROGRAMS UNDER CURRENT POLICY AND OPTIONS FOR FISCAL YEAR 1979, IN MILLIONS OF DOLLARS

Option	1979
Current Policy	
Deficiency Payments (wheat, feedgrains, cotton)	100
Rice Program	315
Dairy Program a/ (80% of parity)	415
Peanut Program	136
Options	
Deficiency Payments (wheat, feedgrains, cotton)	
Cost of Production, Current Land Value	3,600
Cost of Production, Average Land Value	500
Emergency Farm Act of 1975	4,200
Rice Program	
Lower target price	215
Reversion to basic legislation	325
Dairy Program a/	
75% of parity	115
85% of parity	725
Peanut Program	
Two-price program	56
Target-price program	84

a/ Fiscal year 1978 estimate. Estimates not made for fiscal year 1979.

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CHAPTER IV POLICY ISSUES AND OPTIONS: DISASTER PROTECTION

Market forces are not the only source of income fluctuation for individual farmers. Natural hazards, such as flood, drought, wind, and hail, can cause serious crop damage or complete failure. The federal mechanisms for protecting farmers from natural hazards (aside from emergency loans) are the Federal Crop Insurance Corporation (FCIC) and the disaster payments provisions of the 1973 Agriculture Act and the 1975 Rice Act.

Disaster Payments. The disaster payments provisions provide free insurance to eligible wheat, feedgrain, cotton, and rice producers. Payments are made if farmers are prevented from planting or if yields are below specified levels. Budget costs have been variable, but generally high--$557 million in fiscal year 1975, $287 million in fiscal year 1976, and $374 million (estimated) for fiscal year 1977.

During the first three years of operation, several weaknesses in the program have become apparent. Eligible producers, those with allotments, may become ineligible due to production on nonallotment acreage, and producers without allotments receive no benefits. Disaster yields (used to determine low yield payments) may not reflect the productivity of individual farms. Also some hazards that involve managerial judgment--such as a farmer's decision that it is too wet to plant a crop--are covered (unlike other kinds of insurance). Payments are not graduated to reflect the timing of the loss or costs incurred in production, and are low for farmers who suffer a complete crop loss.

Federal Crop Insurance Corporation. The FCIC provides all-risk crop insurance which, by law, cannot exceed the cost of production. It does not insure against hazards involving managerial judgment. Premiums are set so that, over time, indemnities will equal 90 percent of premiums, with the surplus used as a reserve. Administrative costs are paid through appropriations, but appropriations (limited to $12.0 million annually) have recently fallen short of expenses, thus requiring the use of reserves. The FCIC is permitted by law to refuse insurance in any county, area within a county, or even an individual farm that involves a high risk. Consequently insurance is not available for many areas where experience indicates a sound insurance program is not feasible. In 1975, the program was available in 1,467 of the 3,000-odd counties in the continental United States. Private insurers primarily cover hail and fire hazards.

The major issue is what role the government should have in protecting farmers against natural hazards. One view is that, since the beneficiaries of disaster payments and insurance are individual farmers, they should bear the cost of insurance. This might be too narrow a view, given concern about improving U.S. agricultural production capacity. Further there are limitations on insurance for some farmers, both from the standpoint of availability and cost. There are several options for disaster protection, but two seem most realistic: (1) improvement of the current disaster payments provisions and continuing the present crop insurance system, and (2) replacement of disaster payments with an expanded FCIC program.

Modification of the existing disaster payments program to incorporate sound insurance principles would eliminate the current inequities and make the program more effective in meeting the needs of producers. Whether the costs of the modified program would change from the expected $350 million per year outlays through fiscal year 1982 (plus $12 million for crop insurance) for

the current program depends upon the benefits to be offered. 1/ A disaster payments program offering protection similar to that currently available through FCIC for producers of wheat, corn, barley, grain sorghum, rice, and cotton would increase costs by about $50 million per year, as shown in Table 10. A less generous program, which would cover up to 90 percent of a producers out-of-pocket (variable) costs, would reduce government outlays by about $110 million per year. All the acreage of the crops covered could be protected through the program by basing it upon planted rather than allotted acreage. Costs would continue to vary considerably from year to year in line with actual weather conditions.

Expanding the FCIC program and discontinuing the disaster payments program would provide substantial budget savings. The amount of savings depends upon the changes made in the FCIC. Expanding FCIC nationwide for the crops currently covered by disaster payments and offering a government-paid subsidy of 25 percent of the premium would cost about $100 million annually and save about $250 million per year through fiscal year 1982 compared to the current program. However, less than half of the eligible acreage would likely be covered by the program since many producers would choose not to participate. Participation could be increased by offering a more attractive program (increasing the premium subsidy, for instance), but government costs would rise accordingly. This is illustrative of the fact that the government cost is directly related to the benefits offered.

The expanded FCIC program with a premium subsidy could also be extended to crops other than the six currently covered by disaster payments. If the subsidized crop insurance program were extended to all of the 21

1/ This section relies upon the recent USDA-ERS unpublished report, Selected Options for Improving Government Programs that Protect Crop Producers from Natural Risks, by Alan S. Walter and Thomas A. Miller, November 30, 1976.

TABLE 10. ESTIMATED AVERAGE ANNUAL BUDGETARY COST OF ALTERNATIVE CROP INSURANCE AND DISASTER PAYMENTS PROGRAM OPTIONS FOR FISCAL YEARS 1978-1982, IN MILLIONS OF DOLLARS

Option	Average Annual Cost
Disaster Payments and Crop Insurance	
Continue Current Programs	362
Restructure Disaster Payments Similar to Crop Insurance	410
Disaster Payments Covering 90 Percent of Variable Costs	250
Crop Insurance Only	
Expand Crop Insurance, Offer 25 Percent Premium Subsidy, and Discontinue Disaster Payments	97

crops covered by FCIC in 1976 (which include the six in the current disaster program), outlays of about $160 million could be expected in fiscal year 1979, still substantially below a continuation of current programs.

CHAPTER V POLICY ISSUES AND OPTIONS: CONSUMER PROTECTION AND INTERNATIONAL TRADE

CONSUMER PROTECTION

Should consumers be protected from the effects of very high farm prices as producers are now protected from very low prices? This issue arises out of the recent experience with high and rapidly rising food prices. In the 1950s and 1960s, overall food prices rose only modestly. Grain prices adjusted for inflation actually declined during this period as overproduction (or the threat of overproduction) depressed agricultural markets. Low grain prices, in turn, stimulated livestock production which kept meat prices at relatively low levels, despite higher rates of consumption. With the draw-down of government stocks and the fuller utilization of cropland, the opportunity for price fluctuation has increased. Thus, the Congress is faced with deciding whether it wishes to replace the inadvertent price stability that resulted from the policies of the 1950s and 1960s with a formal policy mechanism for accomplishing the same end.

Domestic Grain Reserve

With grain stocks gradually improving, the private sector now holds practically all grain stocks, a distinct change from the beginning of the 1970s when government stocks accounted for about two-thirds of the total. (The government does hold a substantial stock of rice--a foodgrain.) Total carryover stocks represented about 70 percent of annual utilization in 1960-61, declining to 25 percent in 1970-71 in response to policies to reduce government stocks. Thereafter, a combination of large export sales and poor harvests caused stocks to slip as low as 11 percent of utilization in 1974-75. At the end of the current crop year, the stocks/utilization ratio is expected to rise to 18 percent, roughly equivalent to two months of U.S. domestic needs and exports.

There are differing views on how large stocks should be, and who should hold them. As noted, under current legislation and administrative guidelines, government stocks will accumulate only if prices fall to near the loan level and remain there for an extended period. This is a distinct possibility for wheat over the next year or two. Though it appears that in the absence of government stocks the private sector will hold greater stocks than in the past, in both absolute and relative terms, there are significant price risks and costs associated with storing grain for any prolonged period. Further, there is not only uncertainty about how large private stocks will become, but in addition how private stockholders might react in periods of volatile prices. The timing and rate of stock release (and acquisition) are important determinants of how prices are affected by market changes.

A domestic grain reserve either under direct government ownership or under government control is an option to letting market conditions and government loan rates determine the level and stability of farm prices. There are several ways a domestic grain reserve could be structured and operated. However, there are four major issues underlying any reserve option: the purpose of the reserve; how large should it be; the operating rules, i.e., what action or events trigger stock acquisition and release; and who holds the grain.

A domestic grain reserve can be viewed as primarily a means to reduce price instability such as that experienced in the 1970s. Historically, ending carryover stocks of wheat and feedgrains kept prices relatively stable when they were 45 to 60 million metric tons and above (stocks at the end of the 1976/77 crop year will approach the mid-point of this range). Operating rules for a domestic reserve determine when stocks are acquired and released. Upper and lower price levels could signal when to purchase or sell stocks for a "buffer stock." On the other hand a reserve to limit upward price increases by sale of grain would need only an upper price level, once the reserve was established. Operating rules are critical to the effectiveness of a reserve to reduce instability. Either the government could own and hold a reserve; or farmers, through a variety of incentives such as storage

payments, could be encouraged to hold stocks and to release them as conditions warrant.

Costs of a Reserve

The costs of a domestic grain reserve designed to reduce price instability would depend on its size and the level of stability sought. The costs of a reserve would be acquisition, interest, storage and handling, and administration. Receipts from sales would provide some offset. Based on a 60 million metric ton carryover stock, with the government owning half, acquisition cost would be around $2.8 billion with annual storage and interest costs of over $500 million (see Table 11). However, receipts from sales could provide some and perhaps a substantial offset. Historically such a stock kept prices within plus or minus 20 percent of the average level.

TABLE 11. ACQUISITION AND OPERATING COSTS OF ALTERNATIVE GRAIN RESERVES, EXCLUDING PROFITS OR LOSSES FROM GRAIN PURCHASES AND SALES, IN MILLIONS OF DOLLARS

Item	Size of Reserve (Million Metric Tons) a/					
	10	20	30	40	50	60
Acquisition Cost b/	935	1,870	2,805	3,740	4,680	5,615
Annual Operating Cost						
Interest c/	75	150	224	299	374	449
Storage d/	100	200	300	400	500	600
Total Operating Cost	175	350	524	699	874	1,049

a/ Half wheat and half corn.

b/ Based on DRI projected average prices in 1977/78 crop year.

c/ Eight percent simple annual interest.

d/ At $10.00 per metric ton.

If grain were priced on the basis of first-in/first-out with all costs included, then a domestic reserve could be made self-financing. However, this probably is not realistic in terms of operating rules that specify upper price limits for determining stock release. More than likely, the release price would be some multiple of acquisition price, say 150 percent, or some other level determined to be an appropriate upper range. In these instances, the length of time grain is held before sale would be a key determinant of how far receipts would go toward offsetting costs. For example, at expected 1977 grain prices, interest rates, and storage charges, grain held three years and sold at 150 percent of acquisition price would yield receipts that nearly offset costs. Sale at that price prior to three years would generate net receipts, and beyond three years net outlays. The larger the reserve, the less likely it would be turned over at a frequency to generate net receipts.

The costs of a domestic reserve as insurance against domestic production shortfalls or shortfalls elsewhere in the world that affect the demand for U.S. grains necessarily have to be balanced against the several benefits of reduced instability. A domestic reserve broadens the options for dealing with instability, which in the 1970s were essentially only two: export controls or letting the domestic economy absorb the shocks from adverse weather and policies of other governments. Consequently, a domestic reserve would help to dampen the domestic effects of sudden increases in export demand while at least partially maintaining U.S. exports. The latter is an important factor in the longer-run export outlook for U.S. agriculture.

INTERNATIONAL TRADE

In comparison with the agricultural trade policies of other nations, U.S. policy is relatively free. This is not to say the United States has no agricultural trade restrictions; it does. In addition to import quotas on meat, dairy, and other products, grain export embargoes have been used in recent years. But in comparison with the highly protectionist (and expensive) policies of other nations, the United States restricts the access of comparatively few commodities.

An open agricultural trade policy for the United States has obvious benefits, but in the context of a restrictive world market, there are also some drawbacks. Among the more important advantages are: higher incomes for crop producers and grain exporters; higher foreign exchange earnings; and possible leverage for use in seeking trade and diplomatic concessions from other countries. Against these benefits must be matched such potential drawbacks: greater farm price and income instability; higher and more unstable grain costs for livestock producers; higher retail food prices; and possible curtailment of (or higher budget costs for) food aid.

The heavy reliance on agricultural exports for farm income and foreign exchange earnings strongly suggests the necessity for keeping U.S. agricultural markets open to other nations. If that is the case, then it is important to consider ways to dampen the effects of price and income instability induced by changes in foreign demand for U.S. agricultural products. Commodity price and income support programs provide farmers downward price protection. On the upward side, however, the conventional tools for protecting domestic consumers against sharply escalating grain prices conflict with the objective of maintaining open U.S. agricultural markets.

As noted, a domestic grain reserve is one option. Bilateral agreements, which are proliferating, particularly in the international wheat market, offer another means for the United States to deal with export needs over several years. Yet in periods of scarcity they may intensify the degree of instability by reducing the portion of supply that is rationed by the market place. Ultimately more liberalized world trade in agricultural commodities would diminish the potential for instability. Though the United States is pushing for liberalized trade, the prospects for progress in the near future are limited.

APPENDIX COMMODITIES BACKGROUND 1/

CORN

Corn is the leading crop in the United States, in both volume and value of production. In 1975, corn sales accounted for about 10 percent of the total cash receipts from farm marketings. In that same year, the acreage harvested represented about one-fifth of the acreage harvested for all major crops. About 85 percent of all corn is produced in 11 midwestern states, led by Iowa, Illinois, Indiana, and Nebraska.

Average corn yields in the United States have increased dramatically since the 1920s, increasing from under 30 bushels per harvested acre to a record 97.1 bushels in 1972. The major competing use of cropland in corn producing regions is soybeans. Though soybean yields are much lower, prices are normally higher.

Domestic livestock and poultry producers are the largest consumers of U.S. produced corn, using about 70 to 85 percent of the total, depending on the profitability of feeding. Other domestic uses are comparatively small, accounting for only about 8 to 10 percent of the crop. Exports, which have risen sharply in the 1970s, account for the remainder.

U.S. corn production now represents about one-fifth of world production of coarse grains. 2/ Of the world trade in these grains, U.S. exports of corn account for more than half.

1/ This section relies heavily on information appearing in the commodity background section of Farm and Food Policy 1977, Senate Committee on Agriculture and Forestry, 94th Congress, 2nd Session, September 15, 1976.

2/ Includes corn, sorghum, barley, oats, and rye.

Projections of the 1976 crop indicate that production reached a record level. The projected harvest of 6.2 billion bushels is 6 percent above the 1975 crop, the previous record. Carryover stocks should also increase and exports should level off or perhaps even decline slightly. The biggest uncertainty is the feeding requirements of the domestic livestock industry. The future price situation is summarized in the table below. The larger supply relative to the demand should cause the average farm price to fall to about $2.21 per bushel in 1976 and to an even lower level in 1977. Despite the decline, farm prices are expected to remain above the average cost of production 3/ in the foreseeable future.

Between fiscal years 1975 and 1977, net outlays for the corn program have ranged from $112 million and $180 million per year. Most of the spending takes the form of payments for disaster-related losses and net outlays for loans made through the price support program.

WHEAT

Another one-fifth of the nation's cropland is used for wheat. This cereal product is grown throughout the United States, but most of the acreage lies in a belt stretching from Texas to Minnesota, North Dakota, and Montana. Kansas and North Dakota alone produce about 30 percent of the total crop. Wheat sales now represent about 7 to 8 percent of total cash receipts from farm marketings.

Three types of wheat are grown in the United States: hard wheats, soft wheats, and Durum. The soft and hard varieties are classified further according to the time they are planted and their resistance to drought and cold. Winter wheats, which account for about 65 percent

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3/ As used here, these are costs per unit of production and include all variable costs, machinery ownership expenses, and general farm overhead. Land and management costs are excluded.

TABLE A-1. PRICE/COST SITUATION FOR CORN IN DOLLARS PER BUSHEL, BY CROP YEARS (OCTOBER THROUGH SEPTEMBER)

	1975	1976 a/	1977 a/
Farm Price b/	2.55	2.21	2.16
Cost of Production c/	1.43	1.40	1.41
Target Price d/	1.38	1.57	1.76
Loan Rate e/	1.10	1.50	1.50

a/ Estimate.

b/ Average price received by farmers. Sources: 1975 from USDA; 1976 and 1977 projected by Agriculture Model of Data Resources Incorporated.

c/ Costs per bushel. Includes all variable costs, machinery ownership expenses and general farm overhead. Land and management costs are excluded. See Table 3.

d/ Target price projected by USDA. Reflects expected changes in the annual Index of Prices Paid for Production Items and in crop yields.

e/ Loan rate for 1976 through 1979 is the rate announced for 1976.

of total production, are sown in the late summer or early fall and are harvested in the spring and early summer of the following year. Spring wheats and Durum are planted in early spring and harvested in the late summer of the same year. Hard wheats are milled into flour for use in bread and rolls, while the soft varieties are used in cakes, pastries, and crackers. Pasta products such as macaroni make use of Durum.

Food use, however, accounts for only about 25 percent of domestic production. Use of wheat as a domestic livestock feed has also become a significant component of demand, consuming as much as 15 percent of the wheat

crop in recent years. The demand for wheat as a livestock ration is a function of the relationship between the price of wheat and the price of the more traditional feedgrains. Wheat prices have been above the prices of feedgrains, but the price gap can become quite narrow. If the price of wheat falls within 115 percent of the price of corn, it becomes competitive as a livestock feed. The use of wheat as a feed ration is expected to double in 1976 because wheat prices will be unusually low relative to feed grains.

The most important demand component is the export market. Wheat farmers can produce far more than the amount needed for consumption and seed use at home. At the current level of production, about 60 percent of the American crop is sold overseas. The United States produces about one-eighth of the world wheat crop, but exports 40 to 50 percent of the amount flowing through world trade. In terms of production, America ranks behind the Soviet Union, the world's largest producer and consumer of wheat.

Data now available on the 1976-77 crop indicate that production will slightly exceed the 1975 record. However, a substantial increase in the beginning stocks, in addition to the large crop, means that total supplies are the largest since the early 1960s. The level of exports will decline, perhaps more than 10 percent. End-of-year stocks as a percentage of total use (disappearance) is expected to exceed 60 percent, as compared to 71 percent in 1969-70 and 17 percent in 1973-74. Under these demand/supply conditions, the average farm price would fall from the 1975 average of $3.52 per bushel to about $2.81. The $2.59 price of mid-October 1976 was the lowest price received since July 1973. The table below indicates that, although additional decreases in farm prices are anticipated, producers will still be able to cover their out-of-pocket costs.

Outlays for the support of wheat farmers were about $70 million in fiscal year 1976. Most of the spending has been for disaster payments and loans made under the price support program. In fiscal year 1977 outlays will exceed $200 million due to increased loan activity.

TABLE A-2. PRICE/COST SITUATION FOR WHEAT, IN DOLLARS PER BUSHEL, BY CROP YEARS (JUNE THROUGH MAY)

	1975	1976 a/	1977 a/
Farm Price b/	3.52	2.81	2.71
Cost of Production c/	2.12	2.22	2.17
Target Price d/	2.05	2.29	2.52
Loan Rate e/	1.37	2.25	2.25

a/ Estimate.

b/ Average price received by farmers. Sources: 1975 from USDA; 1976 through 1977 projected by Agriculture Model of Data Resources Incorporated.

c/ Costs per bushel. Includes all variable costs, machinery ownership expenses and general farm overhead. Land and management costs are excluded. See Table 3.

d/ Target price projected by USDA. Reflects expected changes in the Annual Index of Prices Paid for Production Items and in crop yields.

e/ Loan rate for 1976 through 1979 is the rate announced for 1976.

SOYBEANS

Soybeans are a legume grown in rotation with, or as an alternative to, corn, other feedgrains, and cotton. In 1975, nearly two-thirds of the domestic crop was grown in the states surrounding the Great Lakes and in the Corn Belt. About 30 percent of the crop was raised in the Southeast and Delta regions. Last year, soybeans accounted for about 14 percent of the total farm acreage harvested and generated about 8 percent of the total receipts from farm marketings.

The soybean is valued for its use as a high protein feed and vegetable oil. A 60 pound bushel of soybeans

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yields slightly less than 11 pounds of oil and 48 pounds of meal. The two products, while closely linked in production, are influenced by different market forces. The demand for meal is a function of the feed requirements of the livestock and poultry sectors. The demand for soybean oil, a product used in cooking oils and margarine, is related to the use of fats and oils. During the last 15 years, consumers have shifted strongly from animal fats to vegetable oils. Soybean oil rose from 36 percent of the edible fat market in 1960 to 60 percent in 1975. The oil now accounts for about 40 percent of the total value of the commodity and the meal for about 60 percent.

The domestic production of soybeans has increased dramatically during the last fifty years, from 5 million bushels in 1925 to about 1,521 million in 1975. Expanded acreage rather than higher per acre yields explains most of this increase. Of the 1,521 million bushels produced, about two-fifths were exported in the form of beans, oil, and meal. The export market is expected to grow as foreign incomes rise. The growing demand for meat products overseas should generate a greater demand for high protein feeds. Foreign sources, however, could become competitors for the world market. Significant increases in production in Brazil and the People's Republic of China have reduced the American share of world production from 73 percent in 1972 to about two-thirds in 1975.

The average price received by soybean producers for the 1975 crop was about $5.00 per bushel, significantly below the 1974 record of $6.64 a bushel. With this year's smaller crop and increased demand, average farm price should climb to over $6.75 per bushel. Increased production in 1977-78, however, is expected to bring prices down. The table below indicates that prices of this magnitude would cover the projected level of production costs.

Budget outlays for the soybean program arise when payments for crops placed under loan exceed loan repayments. Because a price support program was not in operation in fiscal year 1976, repayments exceeded

TABLE A-3. PRICE/COST SITUATION FOR SOYBEANS, IN DOLLARS PER BUSHEL, BY CROP YEARS (SEPTEMBER THROUGH AUGUST)

	1975	1976 a/	1977 a/
Farm Price b/	5.00	6.75	5.85
Cost of Production c/	2.65	2.96	2.85
Loan Rate d/	--	2.50	2.70

a/ Estimate.

b/ Average price received by farmers. Sources: 1975 and 1976 from USDA; 1977 projected by Agriculture Model of Chase Econometrics Incorporated.

c/ Costs per bushel. Includes all variable costs, machinery ownership expenses and general farm overhead. Land and management costs are excluded. See Table 3.

d/ Loan rate for 1976 is now in effect. The loan rate for soybeans is normally adjusted when the rate for corn is revised.

loans that year, resulting in a net influx of funds. No net outlays are anticipated in fiscal year 1977 and fiscal year 1978.

PEANUTS

About one-tenth of the world peanut crop is grown in the United States. Most peanuts are raised in 10 states in the Southeast, Southwest, and Virginia-Carolina areas. Georgia, the leading producer, contributes 44 percent of the total crop. The value of the domestic crop was about $759 million in 1975, or about 1.4 percent of the value of all principal crops in the United States.

Production has increased by more than 60 percent during the last decade as a result of significant gains in yields. The average yield per harvested acre climbed from 900 pounds in 1950 to 2,565 pounds in 1975. This trend is expected to continue. Harvested acreage, however, has remained nearly constant in recent years because government allotments, which control the acreage planted, have remained at the minimum permissible level.

The peanuts raised in this country are used for either direct human consumption as nuts and processed products or for crushing into oil and protein meal. The domestic edible market utilizes about half of the crop; about 20 to 30 percent is crushed; and the rest is exported or used for seed. Peanut oil is a high quality cooking oil and is about twice as valuable per pound of peanuts as the meal which is primarily used in livestock feed. Exports have ranged between 13 and 20 percent of production since 1971 and have been for edible uses. In recent years the available supply of peanuts has far exceeded the level of demand at the levels at which the price has been supported. This has resulted in a sizeable accumulation of government-held stocks.

Forecasts of the 1976 crop indicate that production will be about 3,688 million pounds, down about 4 percent from the record crop of 1975. As the table below indicates, prices paid to farmers closely follow the support price which now is set at 75 percent of the parity price. The farm price projected for 1976, 20.5 cents per pound, should move upward with the parity price which reflects the relative cost of agricultural imports and the prices paid for all crops. The cost of production varies considerably among regions, but the average for all producing areas in 1975 was about 9.8 cents per pound, significantly below the average price received by growers.

Budget outlays for the program depend on the quantity of peanut products acquired by the government through the commodity loan program, the quantity that can be sold, and the subsidy, i.e., the difference between the price at which stocks are acquired (the support price) and the sales price. Expenditures for the

TABLE A-4. PRICE/COST SITUATION FOR PEANUTS, IN CENTS PER POUND, BY CROP YEARS (AUGUST THROUGH JULY)

	1975	1976 a/	1977 a/
Farm Price b/	19.6	20.5	21.5
Cost of Production c/	9.8	10.3	9.8
Loan Rate d/	19.7	20.7	21.6

a/ Estimate.

b/ Average price received by farmers. Source: 1975 through 1977 from USDA.

c/ Costs per pound of peanuts. Includes all variable costs, machinery ownership expenses and general farm overhead. Land and management costs are excluded. See Table 3.

d/ Loan rate projected by USDA. Figures reflect 75 percent of expected parity price.

peanut program rose sharply when the price at which the Department of Agriculture would sell surplus peanuts was raised to the support level. Costs for fiscal year 1977 may fall due to a relatively poor crop, but are expected to reach $120 million in fiscal year 1978 and continue to climb for the next several years.

RICE

This country raises about 1.5 percent of the world's rice, primarily in five states. Arkansas, the leading rice state, produced about one-third of the total crop in 1975. California, Louisiana, and Texas followed with about 20 percent each, and Mississippi with 5 percent. Three varieties of rice are produced in the United States: long, medium, and short grain. Long grain accounts for about half of the domestic crop and is

preferred by American consumers because it cooks dry and fluffy. Medium and short grain rice cooks moist and glutinous and consequently, are the preferred varieties in Latin America and Asia.

During the last decade the harvested acreage of rice in this country ranged from 1.8 to 2.8 million acres, or less than 1 percent of the total. The record level of 2.8 million acres was harvested in 1975 when production also reached an all-time high of 128 million hundredweight. This crop was 50 percent larger than the one harvested in 1972. The major factor responsible for the increased production has been the expansion in acreage. Per acre yields have actually declined slightly during the last five years. The 1975 crop had a value of about $1 billion which is equal to less than 2 percent of the value of all of the principal crops produced in the United States.

About 40 percent of the rice grown in this country is sold for domestic consumption and the rest is exported. In the domestic market most rice is used as a food grain, but sizeable quantities are utilized in processed foods and in the brewing industry.

Although the United States is a relatively minor producer when compared to the rest of the world, this nation is the largest exporter. For the last 10 years, the United States has accounted for around one-fourth of the total world trade in rice, and since 1962, export sales have consistently exceeded domestic consumption. For the past decade, most of our exported rice (55 to 81 percent) has been sent to Asia. A large share of the rice moving overseas has been sent under the government's food assistance program. In 1975, for example, nearly 40 percent of the exported rice was shipped through the P.L. 480 program.

Data now available indicate that rice supplies will reach a record high in the 1976-77 marketing year. The increase in supplies is attributable to larger carryover stocks. Production is actually projected to be 8 percent lower than in 1975, but this decline is more than offset by the record level of inventories. Domestic consumption is likely to increase slightly. After a sharp decline in 1975, both commercial exports and P.L. 480 shipments were

expected to increase significantly in 1976 due to smaller crops overseas and growing world demand. Unless the world crop deteriorates further, domestic stocks should be even larger at year's end, despite the increase in domestic consumption.

The large supplies will continue to keep prices under pressure. Early season farm prices have averaged a third below those of last year and the average for 1976-77 could be $6.50 per hundredweight. As the table below indicates, prices of this magnitude are not much higher than the expected cost of production and are actually below target prices.

Because market prices have dropped below the target level of $8.25 percent, deficiency payments of about $140 million will be disbursed in fiscal year 1977, the first under any of the new farm legislation. Loan repayments and receipts from the sale of stock should reduce net outlays in fiscal year 1977 to about $120 million. Low prices and the resulting deficiency payments should keep expenditures at about $120 million in fiscal year 1978.

COTTON

U.S. cotton production, which accounts for about one-fifth of the world crop, is grown in 19 states across the southern half of the country. Texas is the largest grower of cotton, producing more than one-fourth of the domestic output, with California and Mississippi ranking second and third, respectively. Production has gradually shifted westward in recent years. Since 1974, the Far West has produced nearly a third of the domestic crop, up from less than one-fifth 10 years earlier. During the same period, production in the Southeast dropped from 14 percent of total output to 7 percent. The 150,000-200,000 producers scattered across the Cotton Belt earn more than $2 billion annually from the sale of cotton fiber, or slightly more than 2 percent of the value of all marketings. In 1975, about 2 percent of the nation's harvested cropland was used for cotton.

During the last 10 years, domestic production averaged about 11 million bales per year, ranging between

TABLE A-5. PRICE/COST SITUATION FOR RICE, IN DOLLARS PER HUNDREDWEIGHT, BY CROP YEARS (AUGUST THROUGH JULY)

	1975	1976 a/	1977 a/
Farm Price b/	7.93	6.50	7.00
Cost of Production c/	6.10	6.14	6.28
Target Price d/	--	8.25	8.44
Loan Rate e/	--	6.19	6.33

a/ Estimate.

b/ Average price received by farmers. Sources: 1975 from USDA; 1976 and 1977 projected by CBO.

c/ Costs per hundredweight. Includes all variable costs, machinery ownership expenses and general farm overhead. Land and management costs are excluded. See Table 3.

d/ Target price projected by USDA. Reflects expected changes in the Annual Index of Prices Paid for Production Items and in crop yields.

e/ Loan rate projected by USDA, based on expected changes in the target price.

15 million bales in 1965 and 7.4 million in 1967. The variation has been due to fluctuations in both acreage and yields. While the acreage planted has been influenced by the support programs and market prices of cotton and competing crops, the weather has been responsible for substantial changes in yields.

The cotton plant actually yields two major products. Cotton lint is the more familiar commodity, used for a multitude of textile products. In addition, cottonseed is sold for use as an oil and meal. Cotton consumption by textile mills has declined sharply during the past decade as a result of the growing use of man-made fibers. Although the textile market has expanded, cotton's share

dropped from 53 percent in 1965 to 29 percent in 1973. Since 1973, the market share has stabilized at this lower level. Rayon has been a major competitor for years, but more recently, noncellulosic fibers such as polyester have entered the market. When considered on a cotton-equivalent, mill delivered basis, synthetic fibers are now priced at about 50 percent below cotton. In contrast, 10 years ago cotton prices were a third of the price of noncellulosic products. The aggressive marketing of man-made fibers and their more stable supply also contributed to the decline in cotton consumption.

American trade in cotton is really limited to exports because quotas restrict imports to small quantities, an amount equivalent to about one day's consumption by U.S. mills. Exports, however, account for nearly 40 percent of domestic production and about one-fourth of the world cotton trade. Japan, South Korea, Taiwan, and Western Europe are major customers, while the U.S.S.R., Turkey, Pakistan, and Egypt are the major competitors.

Relatively strong demand in the face of tightening supplies characterizes the outlook for the 1976-77 season. The 1976 crop is projected to be much larger than the abnormally small 1975 crop, but because beginning stocks are very low, the overall supply will be only slightly larger. Sharp increases in exports will probably more than offset slightly lower domestic consumption. The reduced supplies will place upward pressure on prices which will further weaken cotton's competitive position. The table below shows that the farm price will probably rise to 67 cents per pound in 1976-77. Prices will likely decline after 1976 because of expanded production. It is anticipated that most of the $100 million in outlays projected for fiscal year 1977 will take the form of disaster payments.

DAIRY PRODUCTS

On the basis of value, milk is one of the most important agricultural commodities produced in the United States, accounting for about 11 percent of the

TABLE A-6. PRICE/COST SITUATION FOR COTTON, IN CENTS PER POUND, BY CROP YEARS (AUGUST THROUGH JULY)

	1975	1976 a/	1977 a/
Farm Price b/	50.0	67.0	56.0
Cost of Production c/	42.0	51.0	45.0
Target Price d/	38.0	43.2	49.0
Loan Rate e/	34.3	37.1	42.5

a/ Estimate.

b/ Average price received by farmers. Sources: 1975 from USDA; 1976 and 1977 projected by Agriculture Model of Data Resources Incorporated.

c/ Costs per pound of cotton lint. Includes all variable costs, machinery ownership expenses and general farm overhead. Land and management costs are excluded. See Table 3.

d/ Target price projected by USDA. Reflects expected changes in the Annual Index of Prices Paid for Production Items and in crop yields.

e/ Loan rate projected by USDA. Reflects expected changes in the price of U.S. cotton in world markets.

total cash receipts from farm marketings. The milk is supplied by approximately 300,000 farms throughout the country, but nearly half of the production occurs in five dairy states: Wisconsin, California, New York, Minnesota, and Pennsylvania.

The supply of milk fluctuates seasonally, generally expanding during the "flush" periods of spring and early summer and contracting in the fall and winter. Three-quarters of the milk produced is Grade A, which satisfies the stringent sanitary standards set for fluid products.

The remaining Grade B milk meets somewhat lower standards and can be used only for manufactured products such as cheese, butter, and nonfat dry milk.

Like other production units in agriculture, dairy farms are becoming fewer in number and larger in size. The number of farms reporting dairy cows fell 85 percent between 1959 and 1975. Economies of size, new technology, and large capital requirements are among the factors causing the change in structure. While the number of farms has declined, adequate milk supplies have been maintained. One explanation is that productivity has more than doubled since the early 1960s, partly because less efficient operations have gone out of business, but also because of greater inputs of capital and energy and improved breeding and feeding.

In contrast to the rising productivity, per capita consumption of dairy products has declined steadily. On a milk equivalent basis, per capita consumption decreased from 653 pounds in 1960 to 546 pounds in 1975. Shifts have also occurred among dairy products. Between 1960 and 1975, per capita consumption of butter, cream, and whole milk decreased significantly, while consumption of low-fat and skim milk and cheese increased sharply.

Although the United States is one of the world's largest producers of milk, little of the American product moves in international trade. Imports during the last decade, on a milk-equivalent basis, have averaged less than 2 percent of total production due to our system of import quotas. Exports and shipments of dairy products to U.S. territories during the same period have averaged just over 1 percent of total domestic production.

Marketing year 1976 will probably represent the first annual increase in total milk production since 1972. Production is expected to increase from 3 to 4 percent over 1975, which would be the sharpest rise in over a quarter of a century. Total sales of milk and other dairy products have stayed well above the previous year's level. Cheese and fluid milk sales have been brisk in 1976, but higher prices for butter have

reduced the consumption of that product below the 1975 level. The total consumption of dairy products could increase by about 4 percent over last year. The average farm price for all milk sold is expected to climb 4 percent to about $9.54 per hundredweight. Because of the sharp increase in production, government purchases of surplus products will increase significantly during the 1977 marketing year. As a result, outlays could rise to about $400 million in fiscal year 1978, assuming support at 80 percent of parity.

TABLE A-7. PRICE SITUATION FOR DAIRY PRODUCTS, IN DOLLARS PER HUNDREDWEIGHT, BY MARKETING YEARS (APRIL THROUGH MARCH)

	1975	1976 a/	1977 a/
Farm Price b/	8.12	8.45	8.74
Support Price c/	7.71	8.26	8.54

a/ Estimate.

b/ Average price received by farmers for manufacturing grade milk, assuming 80 percent of parity. 1976 and 1977 are based on CBO projections. The average price for all milk sold is expected to be $9.54 per hundredweight in 1976, $9.80 per hundredweight in 1977, and $10.36 per hundredweight in 1978.

c/ Support rate for manufacturing grade milk, assuming 80 percent of parity. 1976 and 1977 are based on CBO projections.

LIVESTOCK

The sale of livestock and livestock products, excluding dairy, accounts for about 37 percent of the cash receipts from all agricultural commodities--the largest share generated by any type of product. Cattle and calf sales at $17.5 billion in 1975 produced the greatest receipts, followed by $7.9 billion for hogs and $6.7

billion for poultry and eggs. The U.S. production of meat is by far the largest of any country and totals 70 percent more than the output of the U.S.S.R. which ranks second. U.S. meat consumption was 181 pounds per person in 1975.

Most of the U.S. meat is produced and consumed at home. Only about 4 percent of the meat consumed, including 3 percent of the pork and 5 percent of the beef, is imported. Even so, the United States imports about one-fifth of the meat that enters world trade. About 1 percent of the U.S. meat production is exported.

The livestock industry has grown and changed significantly since the 1950s with the development of large, highly specialized feedlots and regional shifts in production. There was an expansion in the number and size of cattle feedlots in the Southwestern, the Plains, and the Corn Belt states until early in the 1970s. These new specialized operations are dependent on purchased grains and feeder cattle (cattle sold for fattening). Similar growth occurred in the Midwest hog sector, but to a far lesser extent. Previously much of the beef and pork production was on smaller farms which often produced most of their feed and grew their own livestock. The new operations became more vulnerable to fluctuations in either prices of feed or livestock that must be purchased for feeding.

The large volume of livestock and livestock products produced in the United States requires a sizeable quantity of inputs. The most important input is, of course, feed. Somewhat over half of the feed utilized is hay, pasture, and other harvested roughages (see Table A-8). About a third of the feed is corn and other feedgrains. This dependence upon feedgrains as an input is indicative of the close interrelationship between crop and livestock production.

Since 1970 there have been extreme variations in crop production and prices which have caused financial stresses in the livestock industry. The corn blight in 1970, which contributed to an 11 percent cut in production and higher feedgrain prices, was the first shock. In the years following, record corn supplies were produced in 1971, followed by heavy exports and higher

feed prices in 1972 and 1973. Then a poor corn and soybean crop was harvested in 1974 which caused even higher feed prices. Feed supplies have been adequate since 1975 and, consequently, prices have moved downward giving some relief to the livestock producers.

The wide and sometimes rapid movements in feed production and prices have required difficult adjustments by livestock producers. Adjusting to economic conditions is often costly to producers and sometimes requires considerable time to be completed. Herds can be quickly liquidated in response to unprofitable conditions, but often at a severe loss to the producers. Expansion, however, takes much longer. It may take up to four years from the time a decision is made to expand beef production until meat is ready for consumption. Hogs take up to two years. However, at the time the decision is made to expand, producers are largely unsure of the prices they will receive at the time their animals are marketed. While the commodity programs offer price support for the major grains and prevent prices from dropping below the support level, there is no comparable program for livestock, and prices are free to move downward to any level. Even though the livestock industry has proven to be a business with heavy risks, it has still managed to show continued growth.

TABLE A-8. FEED CONSUMED BY LIVESTOCK AND POULTRY, FEEDING YEARS 1950 AND 1970 a/

Farm Material b/	Feed Consumption			
	1950 Total (Thousands of tons)	Percentage of Total	1970 Total c/ (Thousands of tons)	Percentage of Total
Corn	73,096	25	101,275	24
Other Feedgrains	27,610	9	42,631	10
Byproduct Feeds	28,578	10	44,524	11
Other Concentrate Feeds	3,478	1	4,838	1
Total Concentrates	132,762	45	193,268	46
Hay	42,101	14	52,982	13
Other Harvested Roughages	15,694	5	24,784	6
Pasture	107,306	36	148,117	35
Total Roughages	165,101	55	225,883	54
Total All Feed	297,863	100	419,151	100

SOURCE: The Food and Fiber System--How It Works, Economic Research Service, U.S. Department of Agriculture, 1975.

a/ Excludes Alaska and Hawaii.

b/ Measured in feed units (corn equivalent).

c/ Preliminary.