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United States
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Agriculture

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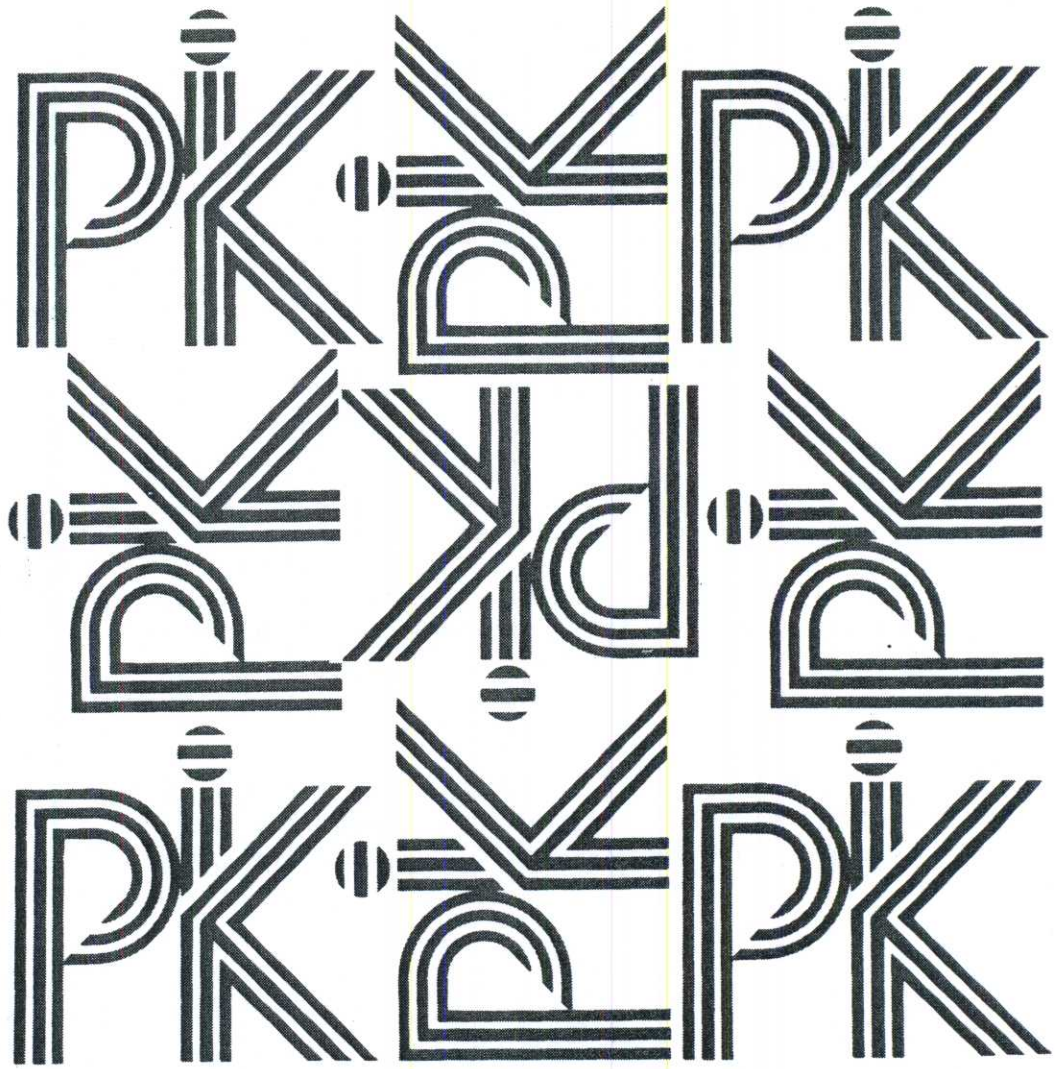
April 1983

An Initial Assessment Of the Payment-in-Kind Program



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This report was prepared in the Economic Research Service with cooperation from the World Agricultural Outlook Board, Agricultural Conservation and Stabilization Service, Foreign Agricultural Service, and the Office of Budget and Policy Analysis.

This analysis of the PIK program was prepared on the basis of information available March 30. The impacts described here could change significantly as more definitive information becomes available.

SUMMARY

PIK Takes Record Acreage Out of Production

Acreage of wheat, cotton, rice, corn, and grain sorghum is expected to be cut by a record amount in 1983, as farmers take land out of production under the USDA payment-in-kind (PIK) program and other acreage limitation programs. This adjustment, of unprecedented scope, should set the stage for higher farm prices and incomes in 1983 and beyond.

Under average weather conditions, the production declines associated with the 1983 acreage decrease could be a fifth for wheat and grain sorghum, a quarter for cotton and rice, and a third for corn. By the close of the 1983/84 marketing year, stocks of wheat could be almost 10 percent below year-earlier levels. Rice stocks may be down about 50 percent, cotton by 30, and corn by 45. Even soybean acreage, which is not eligible for PIK, should drop as less soybeans are double-cropped and as nonparticipating farmers switch to corn and cotton because of improving prices for these program crops. Soybean production may be off almost a tenth, and stocks are likely to decline 25 percent.

PIK and other acreage reduction programs were initiated against a backdrop of serious and worsening farm surpluses. Weak domestic demand, declining exports, and record-large 1981 and 1982 harvests had increased stocks, lowered commodity prices, depressed farm income, and boosted Government expenditures. PIK participants, in exchange for idling a portion of their cropland, will receive compensation in-kind from the crops held by the Commodity Credit Corporation or in the regular and farmer-owned reserve programs.

Net farm income in 1983 is now forecast to range between $18 and $22 billion. PIK's impact will be concentrated in production expense savings rather than in a rise in cash receipts. Although grain prices will improve, crop cash receipts are forecast to decline from 1982's preliminary estimate of $75 billion, possibly to $64-$68 billion. This decline will be due in large part to PIK's impact on marketings, prices, and loan activity. Livestock receipts are expected to rise fractionally to around $70 billion. Overall, cash receipts from crops and livestock could fall 5-7 percent from the $144 billion of 1982.

Stronger feed prices will raise production costs in the livestock sector and temporarily increase cattle and hog marketings as some producers retain fewer breeding animals. Prices of feeder cattle and feeder pigs could be under downward pressure well into next year. The current expansion in hog production is expected to end early in 1984. On balance, pork production in 1984 will be about the same as in 1983, but hog prices will be slightly higher. As consumer demand for meat rises with economic recovery and as meat output is tempered by a higher cost structure, cattle and poultry prices will also improve.

Reduced plantings and harvestings will cut farmers' use of seed, fertilizer, and pesticides and need for repairs between 12 and 15 percent. Fuel use will drop 8 to 10 percent. Machinery purchases will be much less affected and could be down as little as 2 to 3 percent. Historically, machinery

purchases improve as farm income increases. Overall, farm production expenses are expected to decline 2 to 4 percent from the $144 billion estimated for 1982. This will be the first such decline since 1953 and is tied mostly to the 5- to 7-percent fall in farm input use expected as a result of PIK.

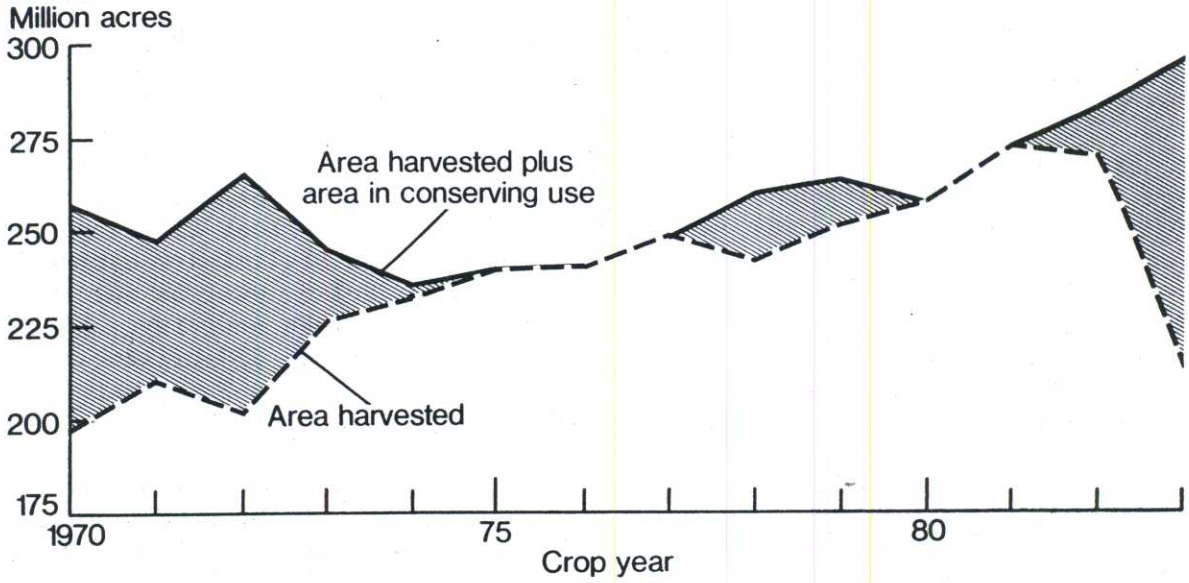
PIK could affect around one-twentieth of 1 percent of total U.S. employment and possibly 2 to 3 percent of employment in agriculture-related industries. This does not mean that all workers affected would lose their jobs, but rather that some would face shorter work weeks or temporary layoffs and others would face longer-term unemployment. Firms which produce or deal in inputs or services for crop production will be most heavily affected.

PIK's impact on U.S. farm exports in 1983 is not expected to be significant. Slightly higher export prices will offset a small reduction in export volume and may raise export value $500 million, possibly to $37 billion.

PIK will have little if any effect on food prices in 1983. Although grain prices are expected to rise, the grain farmer receives only a small share of the consumer's food dollar. Effects on retail food prices may be a little greater in 1984, particularly in the second half as meat supplies tighten.

Figure 1

Area Harvested Plus Conserving Uses, 1970-83



Note: Shaded area shows acreage in conserving use.

April 1983

I. THE RATIONALE FOR PIK

The 1983 acreage reduction programs were put into place against a backdrop of a serious and worsening problem of farm surpluses. Weak domestic demand for farm products, combined with the first drop in exports in more than a decade, has kept total use of U.S. farm products roughly constant over the last 18 to 24 months. The crops harvested in 1981 and 1982 were record large, however, and much of the increase in output both years has accumulated as stocks.

By the end of the 1982/83 season, grain and oilseed stocks will be nearly 3 billion bushels above the levels needed to meet pipeline requirements and protect against swings in weather and fluctuations in demand in the United States and abroad. Individually, stocks of wheat, corn, cotton, and rice are expected to exceed generally accepted carryover needs by 50 to 150 percent.

These rising stocks, in turn, resulted in sharply lower commodity prices, depressed farm incomes, and rising Government farm program expenditures. Farm prices for wheat, corn, and cotton fell 10 to 25 percent from mid-1981 to late 1982. Farm incomes fell a fifth to a 4-year low of $20 billion in 1982. Government expenditures in support of agriculture tripled to set a $12-billion record in fiscal 1982 and are forecast to increase further, possibly to $18 billion, in fiscal 1983.

While many of the factors that combined in 1981 and 1982 to depress demand for U.S. farm products should be temporary, their impacts are expected to continue through 1983 and into 1984. With demand in both the domestic and export markets likely to continue weak, large crops again in 1983 would have generated even larger stocks, lower commodity prices and farm income, and increased Government outlays. The surplus stocks carried over at the end of the 1983/84 season could have approached 4 billion bushels.

Even with the voluntary acreage reduction (ARP) and the cash paid land diversion (PLD) programs announced for the major 1983 crops last fall, stocks would most likely have continued to increase for wheat, rice, corn, sorghum, and cotton. The substantially larger acreage reduction needed to begin reducing surpluses could not be obtained through the ARP and PLD programs without significantly higher Government outlays in a period when increased deficit spending could have delayed the general economic recovery.

The payment-in-kind program (PIK) announced in January was designed to idle this substantially larger acreage without increasing Government outlays. By paying producers to idle acreage with the surplus commodities built up in the farmer-owned reserve or held by the Commodity Credit Corporation (CCC), the PIK program, complemented by the ARP and PLD, aims at:

-reducing production and stocks at the same time;

-ensuring adequate market supplies;

-minimizing direct Government outlays in support of agriculture;

-improving conservation practices;

-increasing farm incomes; and

-helping to ease storage problems.

II. MAJOR FEATURES OF THE PROGRAM

The ARP, PLD, and PIK programs in place for 1983 gave farmers a number of participation options. Farmers could choose not to participate in any of the programs. Farmers participating in the ARP and PLD programs announced last fall are required to idle up to 20 percent of their acreage bases. The two programs require that this idled acreage be put into a conserving use that generally entails planting a cover crop to protect the land against weeds and erosion.

Farmers participating in the ARP and PLD programs also had the option to idle an additional 10 to 30 percent of their base acreage and allocate it to a conserving use if they agreed to participate in the PIK program. As compensation, they will receive in-kind payments on their PIK acres equal to a percentage--80 to 95, depending on the commodity--of their farm program yield established by the Agricultural Stabilization and Conservation Service (ASCS) (see table 1).

Finally, farmers could submit sealed bids indicating the percentage of their program yield they would accept as in-kind compensation for idling their entire base acreage. As the program was first announced, no more than 50 percent of the acreage base for any one commodity could be removed from production in a county.

After evaluating the signup for the ARP, PLD, and 10-30 percent PIK programs, the Secretary of Agriculture announced that whole base bids would be accepted for corn, sorghum, wheat, and upland cotton, but only to the extent that no more than 45 percent of a county's acreage base for each of these crops would be in a conserving use. No whole base bids were accepted for rice. 1/

Mechanical harvesting is not allowed on the acres idled. Grazing is restricted to non-growing months on that portion of land that must be devoted to a conserving use to comply with the programs. However, winter wheat producers will be allowed to hay and graze their wheat acreage planted before January 12 as long as the wheat stand is destroyed by a date designated by the local ASCS committee.

Participants will be able to collect their commodity payments on a PIK availability date set to coincide with the normal start of harvest for each commodity by region. Producers participating in the program who have outstanding farmer-owned reserve or regular loans must allow the CCC to liquidate as much of these loans as necessary to meet their PIK payments. Farmers faced with liquidating regular or reserve loans will not have to pay accumulated interest charges on liquidated loans.

Producers not holding regular or reserve loans, or who do not have enough of a commodity under loan to meet their PIK compensation requirements, will receive CCC stocks. The CCC can also require that producers obtain a regular loan on their 1983 crops, which can be liquidated to cover their PIK payments. This option is expected to be used sparingly.

1/ If a county already exceeded the 45-percent limit under the 10-30 percent option, no bids were accepted. However, enrolled farmers were not required to alter their intentions under the 10-30 option to meet the 45-percent requirements.

CCC stocks will not be sufficient to meet all of USDA's PIK obligations for corn, sorghum, and wheat. This will necessitate CCC's acquiring additional supplies from producers. The CCC is offering to liquidate regular and farmer-owned reserve loans held by farmers. The CCC purchase price of the grain will be the amount required to liquidate the CCC loan, except farmers who believe that they need additional compensation to liquidate may submit competitive bids on the amount of of compensation thay may be needed.

Table 1. Major provisions of the 1983 acreage reduction programs

Program features	Commodity					
	Wheat	Corn	Grain sorghum	Barley & oats	Upland cotton	Rice
	Percent					
Acreage Reduction Program (ARP) --% base to be idled	15	10	10	10	20	15
Paid Land Diversion Program (PLD) --% base to be idled	5	10	10	10	1/	5
Payment-in-Kind Program (PIK)						
--% base to be idled	10-30	10-30	10-30	NA	10-30	10-30
--PIK offer rate	95	80	80	NA	80	80
	$ per bushel				$ per pound	
--Annualized storage payment rate for PIK commodities	0.265	0.265	0.265	NA	2/	0.0085
--Liquidation damages for withdrawing from PIK	0.86	0.572	0.544	NA	0.152	0.0028

NA = Not applicable.

1/ Cotton producers have the option to place up to 5 percent of their base acreage under a paid diversion program. Participation in the diversion program is not required for program benefits.

2/ The storage payment rate for cotton producers will be the approved rate charged by the warehouse where the cotton is stored.

The bids will show the quantity of grain under loan a farmer will liquidate and the percent of that quantity to be paid as in-kind compensation. The factors to be used in considering bids will be the total cost to CCC, location of the grain, class of grain, and total CCC needs. In those cases where liquidation bids are involved, farmers will receive the product immediately to market, feed, or store at their discretion. Any farmer will be eligible to liquidate loans, and participating farmers may offer to liquidate any loans they hold over and above the quantity needed to cover their PIK payments.

To promote the orderly marketing of PIK commodities, producers will receive up to 5 months' storage payments beginning on their local PIK availability date (see table 1 for rates). Producers receiving PIK grain from reserve grain stored on-farm will be eligible for additional compensation equivalent to a 7-month farmer-owned reserve storage payment, adjusted for any unearned storage, regardless of when title to the grain is assumed.

Producers who signed up for PIK but fail to comply with program requirements will be ineligible for program benefits and will be assessed liquidation damages equal to 20 percent of the target price for their 1983 crop times the volume of PIK payments they would have received for participating.

III. EFFECTS ON THE FARM SECTOR

The signup for all of the PIK crops was unexpectedly large in all regions of the United States. The USDA enrollment report released in mid-March indicated that farmers signed up 83 percent of their corn/sorghum, cotton, wheat, and rice acreage bases. If all enrollees comply and plant the maximum acreage allowed under the different programs they opted for, a record 82 million acres of cropland will be put into conserving uses. This compares with the peak of 60-64 million acres idled under the programs in place during the late 1960's and early 1970's (figure 1).

For every acre of land idled and devoted to a conserving use under the 1983 programs, actual harvested acreage is likely to be reduced by 0.7 acre, compared with 0.5-0.6 acre per acre idled under previous land diversions. 2/

2/ This discrepancy--between the amount of acreage idled and the amount that harvested acreage is reduced--is due to increased planting by nonparticipants and other factors.

The 1983 programs are likely to be more effective than past programs, primarily because of the magnitude of the acreage involved and the tight restrictions on alternative uses of idled land.

Compared to 1981, when no acreage programs were in place, harvested acreage of soybeans and the seven program crops--feed grains, wheat, rice, and cotton--will probably be down 53-57 million acres in 1983. Without PIK, the ARP and PLD programs alone were likely to have reduced harvested acreage by 10 to 15 million acres from the 1981 record and possibly by as little as 2 to 4 million acres from the 1982 level.

Since the best land will remain in production and farmers can concentrate their efforts on improving cultivation practices, yields (assuming average weather) will be higher than usual and help assure adequate supplies despite the large reduction in plantings.

The PIK program is also designed to have a positive impact on conservation. During the 1970's, because of rapidly increasing grain prices and encouragement to plant fence to fence, producers brought into production land subject to hazards, particularly erosion. This added cropland was often better suited for hay, pasture, or forest uses. Due to the rush to bring this land into production, conservation practices that could have been used to protect fragile land under annual cropping uses were often neglected.

Now, with high enrollment in PIK and the other reduction programs, farmers will be putting much of this fragile acreage into conserving uses. Program regulations require that conserving use acres be protected against erosion and weeds. This will be an incentive for farmers to remove some of their most fragile lands from annual crop use. Farmers will be able to apply conservation practices such as terracing or drainage without having to disturb growing crops because the land will be idled anyway. Other land less subject to hazards can benefit from the nitrogen-fixing legumes and grasses used as cover crops and the general rotation helpful for controlling weeds, insects, and disease.

There is also considerable incentive to apply permanent conservation practices on conserving use acreage; cost sharing is being offered through the Agricultural Conservation Program for establishing permanent cover on conserving acreage. Moreover, if the producer establishes such cover, the land will be eligible for designation as conserving use acreage in any acreage reduction program offered through the 1985 crop year. Multi-year retirement of such acreage will not reduce

a farmer's acreage base. This approach permits farmers considerable flexibility in managing the farm production base for future program participation.

A. Crop Sector

PIK's impact on the farm economy will be most direct in the crop sector. With PIK in place, surplus stocks will be drawn down sharply in 1983/84. With average weather and the limited strengthening in demand for farm products forecast for 1983/84, ending stocks will be down nearly 50 percent for rice, 35 percent for feed grains, 30 percent for cotton, and about 10 percent for wheat (see appendix table). Because of this closer supply-demand balance, prices should improve.

Wheat

Wheat farmers--who signed up 86 percent of their acreage bases in the ARP, PLD, and PIK programs combined--could idle as many as 32 million acres. However, farmers who signed up for the ARP and PLD but not for PIK can withdraw from the two former programs any time without paying liquidation damages. Approximately 20 percent of the conserving use acreage falls in this ARP/PLD category. Thus, dropout could be a factor in the wheat program if producers withdraw and take advantage of improved prices (see the appendix table).

Under average weather conditions, wheat production in 1983 is expected to fall below 2.3 billion bushels, compared with 2.8 billion in both 1981 and 1982. With total use up slightly, stocks at the end of the 1983/84 season would total about 1.4 billion bushels. Stocks held in the farmer-owned reserve could be reduced substantially by PIK payments, and CCC-owned stocks will be reduced to the 147-million-bushel minimum required for the Food Security Reserve. Wheat prices will be stronger in 1983/84, perhaps averaging $3.50-$3.90 per bushel, compared with $3.45 in 1982/83.

Corn

Corn and sorghum producers enrolled 78 percent of the corn/sorghum base in the ARP, PLD, and PIK programs, with conservation use acreage totaling almost 40 million acres (for signup and compliance purposes, the corn and sorghum bases are considered one). Despite some dropout from the ARP/PLD program because of higher corn and sorghum prices, more than 35 million acres are expected to be put into conserving use. Average weather in 1983 could result in a corn crop roughly two-thirds the size of the 1982 record and a sorghum crop 15-20 percent below last year. As a result, corn stocks are likely to be drawn down nearly 1.6 billion bushels from the 1982 carryover of 3.4 billion. The stock reduction will be concentrated in CCC-owned stocks and the farmer-owned reserve. The season-average corn price for 1983/84 is expected to be 20 to 40 cents per bushel higher--ranging from $2.70 to $3.10--than it would have been without PIK.

Grain sorghum and other feed grains

With average weather, production of the other feed grains will also be down, largely because of an expected 15-20 percent decline in sorghum production. Among the feed grains other than corn, only sorghum was eligible for PIK. But in spite of the sharp reduction in output and an increase in total use, sorghum production is still likely to be greater than use, leading to a slight increase in stocks. Corn price strength should carry over to the other feed grains.

Upland cotton

Producers signed up 95 percent of their upland cotton base and committed nearly 7 million acres to conserving uses. Assuming average weather, production is projected to fall by 2.8 million bales from the 11.9 million harvested in 1982. Stocks could fall by 2.4 million bales, but the remaining 5.5 million will be more than adequate to meet domestic needs and export demand.

Rice

Producers enrolled 96 percent of their rice base acreage in the ARP, PLD, and PIK programs. With average weather conditions, this should reduce production as much as 30 percent from 1982. With domestic use likely to be up 5-6 percent in 1983 and with exports unchanged, total use will substantially exceed production and eliminate most surplus stocks. Hence, a significant increase in season-average farm prices is possible. Whole base bids for rice were not accepted to guard against unacceptably tight supplies--especially of long grain rice--in case of bad weather or an unanticipated surge in foreign demand.

Soybeans

The PIK, ARP, and PLD will also affect 1983/84 soybean supply, use, and price. Participants in the 1982 corn and cotton programs planted less than the maximum acres allowed for these crops. This allowed them to increase soybean acreage in response to relatively attractive prices. Compared to early 1982, soybean prices are now lower relative to both the market and target prices of corn and cotton. Hence, it is likely over the coming year that participants will plant the maximum acreage allowed in corn and cotton and decrease soybean acreage from 1982 levels.

Nonparticipating farmers are also likely to reduce soybean acreage in 1983 to take advantage of more attractively priced corn and cotton. Moreover, a substantial drop in double-cropped soybeans is likely because of the heavy wheat signup in the South.

With average weather, soybean production could be around 2.1 billion bushels in 1983, 8 percent below 1982. Higher grain prices would contribute to a slight increase in total use, causing ending stocks to fall to 285 million bushels. Under these circumstances, the average farm price would rebound sharply from 1982/83 to possibly $5.50-$7.25 a bushel.

An unfavorable weather scenario

The proportion of acreage likely to be idled in the crop sector in 1983 is large enough for some to raise questions about the adequacy of supplies should U.S. and foreign weather prove unusually unfavorable. There is a relatively low probability--about 1 in 3 for the United States only, and roughly the same for the rest of the world--that a serious weather-related production shortfall will develop. The probability of weather-reduced yields simultaneously in both the United States and the rest of the world is even lower--about 1 in 7. Should such a situation develop, crop supplies in the United States would tighten significantly. Prices could rise sharply as the ratio of stocks to use would slip into the price-sensitive range for most of the program crops. Nevertheless, the supplies available in the United States would be adequate to meet domestic needs and exports, and the crop sector would be in a more balanced position in 1984.

B. Livestock Sector

The effects of PIK on the crop sector are strong enough to spill over into the livestock sector. While much of this livestock impact will be delayed until 1984 because of the lag between rising feed costs and livestock production decisions, recent and prospective changes in feed costs and supplies are affecting the livestock sector.

Initially, livestock marketings may increase somewhat as some producers alter production decisions. This could result in larger meat supplies in the short run, causing prices to decline later in 1983. However, livestock inventories are already at relatively low levels. In the longer term, nevertheless, livestock production will be smaller than with continued low-cost feed as breakeven costs rise. Since livestock prices typically rise proportionally more than any drop in output, livestock receipts are likely to eventually be higher with PIK.

Cattle

Higher feed prices will force feeder cattle prices down, as feedlot operators attempt both to keep operating costs down and to place fewer animals on feed. Large numbers of young cattle are also likely to be removed from PIK wheat grazeout acreage in late spring; most of these animals will be placed on feed for at least a short period or will go directly to slaughter. However, cattle feeders will be reluctant to fill their lots at current feeder cattle prices, so feeder cattle prices could be under downward pressure late this spring and perhaps well into next year.

Since cattle are normally on feed for 3 to 5 months and the other inputs used in feedlot operations are generally contracted for when the animal is initially placed on feed, PIK's higher feed prices will not be

reflected in higher breakeven prices until the second half of 1983 and in 1984. Breakeven prices based on feed and nonfeed costs, excluding the cost of feeder cattle themselves, are expected to rise about $3.50 per cwt of gain for cattle marketed when the full impact of PIK is felt in 1984. Given only modest improvement in consumer demand and sensitivity to higher meat prices, higher feed costs will reduce feeder cattle prices, cutting profits and halting any plans for expansion of the cattle cycle here in 1984. However, as consumer demand rises with economic recovery and meat output is tempered, cattle prices will strengthen and encourage renewed expansion in 1985 and beyond.

Hogs

The March Hogs and Pigs report indicated that hog producers were expanding their herds because of the high hog prices and low feed prices enjoyed over the last year. The sharpest increases in production were concentrated in the Southeast and in States on the fringe of the main hog- and grain-producing areas. The higher feed prices now likely with PIK will probably slow or halt production increases early in 1984. Larger pork output will put pressure on hog prices this summer and fall, while higher corn and soybean meal prices will raise production costs. Almost 80 percent of the market hogs are produced on farrow-to-finish operations which are concentrated in the Corn Belt. Feeder pig prices are already declining and are expected to pressure feeder pig producers, particularly in grain-deficit areas, to begin reducing their breeding herd. On balance, pork production in 1984 will be about the same as in 1983, but hog prices will be slightly higher.

Broilers

The increase in broiler production expected late in 1983 is likely to moderate, in part due to PIK, as producers react to higher costs and weak broiler prices. The impact of PIK will be greater in 1984, as low returns late in 1983 cause producers to slow production increases even further. On balance, the number of broilers produced in 1984 is expected to be about the same as in 1983, and broiler meat production may be up less than 1 percent, compared with the 2-percent increase expected before PIK. Prices are also expected to be higher.

Dairy

While PIK may raise the cost of milk production marginally, it will have little impact on production. Supplies will continue to exceed use unless returns to milk producers are reduced.

C. Farm Income

The PIK program improves the outlook for net farm income in 1983 and 1984. Although the volume of PIK commodities marketed remains uncertain, net farm income is expected to range from $18 to $22 billion this year. This income level compares with the $15

to $19 billion forecast for 1983 in December 1982, prior to the announcement of PIK. The preliminary estimate for calendar 1982 is $20.4 billion. Net farm income is expected to increase again in 1984, as the prices farmers receive for their products improve and as their marketings increase.

Cash receipts and gross farm income

The impact of PIK on 1983 net farm income will be concentrated in reduced production expenses and increased Government payments. Cash receipts and gross farm income are likely to decline in 1983 as a result of PIK, but then rise in 1984. Crop cash receipts are expected to decline from the $75 billion forecast for 1982, possibly to $64-$68 billion. This decline will occur primarily as a result of a drop in marketings and changes in loan activity. Though ultimately the PIK commodities--with a market value of $7-$9 billion--will be sold or fed by participating farmers, not all of this will take place in 1983. Although market prices for crops were relatively low in 1982, heavy use of the commodity loan programs--particularly farmer-owned reserve loans--buoyed the cash receipts realized by crop farmers $3 to $4 billion. In 1983, reduced production will help move market prices above 1982 levels.

Much of PIK's impact on livestock receipts will occur after 1983. Cash receipts from livestock are expected to be up fractionally in 1983 to around $70 billion. The forecast of livestock cash receipts has declined more than $1 billion since the advent of PIK, but very little of this decline was due to the PIK announcement. The drop from previous 1983 livestock receipt forecasts is due largely to the impact of the March Hogs and Pigs report, which indicated larger pork production and lower prices this year than expected earlier.

Taken together, cash receipts for crops and livestock in 1983 could fall 5-7 percent from the $144 billion expected for 1982, due in large part to PIK's direct and indirect impacts on marketings, prices, and loan activity. The drop in cash receipts will be softened by changes in Government payments. Cash payments for deficiency, diversion, storage, and conservation programs are forecast to range from $4 to $5 billion in calendar 1983, contributing to gross farm income. Cropland diversion payments will add over $1 billion, more than offsetting an expected deficiency payment drop that will result from higher market prices and smaller production. With the value of PIK payments in 1983 exceeding $5 billion (valued at the loan rate), total Government transfers could reach $10 billion. Another $1 billion in PIK payments could

be delayed until 1984 as a portion of farmers take advantage of the 5 months of storage assistance. But despite higher Government payments and marginal increases in other farm income sources, gross farm income could fall 1-3 percent in 1983.

Production expenses

More than offsetting the expected drop in gross farm income will be a decline in production expenses of possibly 2-4 percent from the $144 billion estimated for 1982. It will be the first drop in production expenses since 1953. The decrease is due primarily to the 5-7 percent fall in overall farm input use expected as a result of PIK and the other acreage limitation programs. Lower input prices, especially for manufactured inputs, plus an easing in farm interest rates will also help keep expenses below the 1982 level. Expenditures for industrial inputs, including seed, may decline by about $5 billion. Partially offsetting this drop will be a $2-billion increase in farm-origin input expenses, especially feed.

D. Food Prices

The PIK program will have little or no effect on food prices in 1983. The higher commodity prices anticipated as a result of PIK could raise the farm value of some items such as grains as much as 10 percent. However, given the small share of the retail price of cereals and bakery products related to farm prices, PIK's higher 1983 farm prices will have little effect. Food prices are currently expected to increase 2 to 4 percent in 1983, compared with a 4-percent increase in 1982 and a 7.9-percent increase in 1981.

The higher grain prices likely as a result of PIK will increase livestock production costs, farm prices, and eventually retail meat prices in 1984. The impact of the higher livestock prices likely with PIK will be limited, however, since farm livestock prices account for less than half of the consumer's meat dollar. Thus, food price increases in 1984 could be up to 1 percentage point higher as a result of PIK. Second-half increases will be the sharpest.

E. Farm Exports

PIK's impact on U.S. farm exports is not expected to be significant in fiscal 1983. Higher export prices will work to reduce the volume of products shipped in the crop sector in particular. However, this drop in volume should be small, and the increase in export prices will work, on balance, to raise the value of exports as much as $500 million to possibly $37 billion.

The impact of PIK on farm exports in fiscal 1984 will depend on a number of developments, such as weather, economic recovery, and how aggressively the other exporters move to expand production and exports. Assuming average weather and some recovery-related growth

in import demand, higher U.S. export prices because of PIK could increase the value of 1984 exports by about $1 billion. Should weather abroad prove exceptionally unfavorable, the United States still would be in a position to meet world import demand.

IV. EFFECTS ON THE NON-FARM SECTOR

With substantially fewer acres planted, farmers will use less seed, fertilizer, fuel, and pesticides and will need less operating capital. Farmers will also reduce use of farm equiment, thus extending its life and reducing the need for repairs. But the improved cash flow positions that many farmers are likely to experience because of reduced production expenses and higher income should allow many operators to make capital purchases or reduce debt.

Input industry impacts

The impact of PIK on the input industry, in the short run, will be the most pronounced. However, in the longer term, recovery in input demand should occur sooner with the 1983 programs in place than if excess commodity stocks continued to depress market prices for several years.

Fertilizer use is likely to decline by about 12 to 14 percent (table 2). With the industry already suffering from serious excess capacity due to slack demand and increased imports, some additional production facilities --primarily ammonia plants--are likely to close. Since prices are also likely to soften, the drop in fertilizer manufacturers' revenues is also likely to be greater than the decline in use (table 3). This effect will extend to fertilizer retailers, particularly in the major corn-producing areas, where the volume of business could drop off more sharply than in other areas.

For the farm machinery industry, expenditures for repairs will decline by 12 to 15 percent. Machinery purchases are also likely to decline, but only by about 2-3 percent. Given the program's positive impact on farmers' cash flows, the machinery sector should recover from its current slump sooner than if the low income-cash flow problems continued.

Table 2. Reduction in input use as a result of the 1983 PIK program

Input	Seed	Fertilizer	Pesticides	Fuel	Machinery purchases	Machinery repairs
	Percent					
Change in Use	12-15	12-14	12-15	8-10	2-3	12-15

Use of pesticides is expected to drop 12 to 15 percent. However, agricultural pesticides account for a small share of the output of the chemical industries involved and a small portion of the sales of most input suppliers. Thus, the reduction in pesticide use will have little impact on manufacturers or retailers. But, it could seriously affect some custom operators.

Seed producers and retailers, particularly those concentrating in program crops, will be more severely impacted because of the direct relationship between acreage planted and seed use. On the other hand, producers of grass and legume seeds can expect a surge in demand and substantial price increases, because these seeds will be used for cover crops on the expanded conservation use acreage. Some shortages of these seeds have already been experienced.

Fuel use is expected to decline by 8-10 percent. The decline is not in proportion to 1983's reduction in acreage because equipment must be used to plant cover crops on conserving acreage. Except for those cases where farmers are the primary clientele and program commodities are the primary farm enterprise, lower fuel use will have little effect on wholesale suppliers or retailers.

Table 3. Selected agricultural production expenditures with and without the 1983 PIK program

Item	Without PIK	With PIK
	Billion dollars	
Expenditure:		
Seed	4.0	3.4
Fertilizer	8.9	7.6
Pesticides	4.0	3.5
Fuel	9.3	8.3
Farm machinery (purchases & repairs)	19.7	18.2
Total	45.9	41.0

Financial impacts

The PIK program is expected to improve the cash flow position of many farmers in 1983 and 1984 and, in turn, reduce their credit needs and outstanding debt. Operating credit needs during 1983 are expected to decline by $2.5-$3.0 billion due to the PIK-related reduction in input expenses. This decline is expected to be mostly for short-term borrowing rather than

for intermediate or long-term credit. An additional reduction in demand for operating credit can be expected as a result of the added capital available to farmers from direct program payments made in 1983. Direct payments to farmers will also permit them to reduce outstanding debt, improve liquidity, and replace depreciated capital items toward the end of the season.

Employment impacts

The national employment effects of PIK will be small, owing to the capital intensity of many input industries. But, some regional or local impacts on employment and economic activity in the food- and fiber-processing and distribution system will be significant. At the local level, for instance, cotton-ginning firms and rice-drying firms could face a 25-percent decline in the demand for their services. Industries dealing in agricultural inputs will be most affected. Firms that will face significant declines in demand for their services include those that retail or transport inputs; apply fertilizer, lime, pesticides, and other chemicals; and service farm machinery and equipment.

On the other hand, some increase in demand for both truck and rail transportation is expected from higher-than-normal feed shipments into deficit areas. Corn and sorghum movements may be greatest into the three largest deficit regions (Southeast, Delta, and Pacific). Shipments are expected to increase the most to the Southeast. The PIK program may also influence grain flows within major producing regions, resulting in an increase of short-haul truck transportation.

PIK could affect around one-twentieth of 1 percent of total U.S. employment and possibly 2-3 percent of employment in agriculture-related industries. Not all the workers affected will lose their jobs; some will face shorter work weeks or temporary layoffs, and some may face longer-term unemployment. As the $3 billion of added farm income generated by PIK works its way through the farm and nonfarm economy in late 1983 and through 1984, some additional jobs will be created to partially offset the effect of PIK.

V. COST IMPLICATIONS

PIK is expected to have little impact on Government outlays in support of agriculture in fiscal 1983. In fiscal 1984, however, PIK could reduce outlays substantially. Government expenditures in support of agriculture increased sharply in 1982 as producers put a record volume of products under loan and as the deficiency payments made by CCC grew in response to sharply lower commodity prices. In the President's budget issued in January 1983, the estimate of CCC outlays for FY 1983 was placed at an alltime high of $18.3 billion--58 percent more than last year's record and nearly five times as much as was spent only 2 years ago.

With no prospects for a dramatic turnaround in agriculture, the PIK program was announced to prevent further deterioration and to help bring Government spending under control. PIK does not require any additional cash outlay as an enhanced paid diversion program would have required. By using commodities for which funds have already been disbursed, CCC incurs no further outlays but does incur losses to the extent that monies already spent cannot be recovered through future loan repayments or the sale of CCC stocks.

However, without the PIK program, large surplus stocks would have been held indefinitely--especially since the law prohibits CCC from selling its stocks at below specified minimum levels that far exceed today's price levels. Moreover, the CCC would have experienced losses due to deterioration in the quality of stocks held over an extended period of time. In addition, the CCC would have continued to pay interest and storage charges.

Thus, the loss to CCC represented by the value of the commodities used for PIK payments has to be tempered by the reduction in the future costs associated with carrying large stocks. The dramatic reduction in acreage that is expected from the PIK program for 1983 crops is very likely to impact on prices and stocks for the next few years, and this will also tend to reduce future outlays for price support loans and target price payments.

When the PIK program was announced in January, the expectation was that it would generate savings of about $600 million in FY 1983 and about $3 billion in FY 1984 when compared to a continuation of the existing programs. This estimate of savings was developed, however, assuming a much lower level of acreage reduction than is apparent as a result of the signup report of March 22. The higher level of acreage reduction will likely result in additional budget savings in FY 1984 as there should be less need for price support loans, and the acreage base on which target price deficiency payments are computed will be smaller. The net result of the higher signup is that outlays could be reduced by more than the $3 billion estimated in the fiscal 1984 budget.

A Note on the CCC

Commodity price support programs are operated and financed through the CCC. To carry out its functions, CCC borrows funds from the U.S. Treasury and repays these borrowings, with interest, from receipts and from appropriations provided by Congress to reimburse the CCC for its net realized losses. The CCC's outstanding borrowings from the Treasury cannot exceed $25 billion.

The CCC price support programs act as a safety net when conditions in the farm sector are unfavorable, as they tend to provide a floor price for the commodity. These programs are, for the most part, also what is referred to as an "entitlement"--anyone who meets the legal and regulatory criteria for eligibility is entitled to receive program benefits. Therefore, CCC outlays tend to rise when economic conditions are poor and decrease when economic conditions are favorable to farmers.

CCC outlays for any fiscal year are generally related to the previous crop year. The change in outlays from one year to the next is a result of crop and economic conditions, farm program provisions, and participation in the various commodity programs. For example, FY 1983 outlays are largely a function of the already-harvested 1982 crop.

VI. CONSEQUENCES OF PIK ON THE LONGER TERM SUPPLY-DEMAND BALANCE

The 1983 acreage reduction programs were a necessary first step toward preventing a further buildup in farm surpluses. Given average weather, at least part of the surpluses built up in 1981 and 1982 will be carried over into 1984. Carryover stocks at the end of the 1983 crop year are likely to be in excess of levels generally accepted as necessary by as much as 500 million bushels of corn (the equivalent of production from 4-1/2 million harvested acres), nearly 400 million bushels of wheat (the equivalent of 10-12 million acres), and 1-1/2 million bales of cotton (the equivalent of 1-1/2 million acres).

As table 4 suggests, the most serious supply imbalance is likely to be in wheat. Projected 1983/84 ending stocks suggest a less serious problem for corn, cotton, and rice.

Table 4. U.S. carryover stocks of major PIK crops

Year	Wheat Mil. bu.	Corn Mil. bu.	Rice Mil. cwt	Cotton 1/ Mil. bales
1980	989	1034	16.5	2.7
	2/ (43.2)	(14.3)	(11.3)	(22.9)
1981	1164	2286	49.0	6.6
	(44.3)	(32.9)	(32.6)	(55.9)
1982	1582	3434	65.2	8.0
	(66.1)	(47.4)	(47.1)	(74.1)
1983 2/	1440	1875	34.2	5.6
	(59.8)	(26.0)	(24.1)	(47.9)

1/ Includes upland and extra-long staple cotton.
2/ Stocks as a percent of use are shown in parentheses.

Appendix table. Effects of PIK on production, stocks, and use

Commodity	Crop Year 1981	1982	1983	Prob. variation
Wheat				
Participation 1/ (percent)	--	48	86	
Acreage harvested (mil. acres)	81.0	78.8	--	
CUA 2/ (mil. acres)	--	5.8	32.1	
Yield per acre (bu.)	34.5	35.6	--	
Supply:				
Beginning (mil. bu.)	989	1164	1582	
Production & imports (mil.bu.)	2802	2813	2268	+225/ -225
Total supply (mil. bu.)	3791	3977	3850	+225/ -225
Use				
Domestic (mil. bu.)	854	870	910	+80/ -80
Exports (mil. bu.)	1773	1525	1500	+150/ -150
Total use (mil. bu.)	2627	2395	2410	+200/ -200
Total ending stocks (mil. bu.)	1164	1582	1440	+200/ -200
FOR (mil. bu.)	562	1050	--	
CCC (mil. bu.)	187	180	--	
Free (mil. bu.)	415	352	--	
Season-average price ($/bu.)	3.65	3.45	3.50-3.90	
Corn				
Participation 1/ (percent)	--	29	78	
Acreage harvested (mil. acres)	74.7	73.2	--	
CUA 2/ (mil. acres)	--	2.1	3/ 33.2	
Yield per acre (bu.)	109.8	114.8	--	
Supply				
Beginning (mil. bu.)	1034	2286	3434	
Production & imports (mil.bu.)	8203	8398	5641	+575/ -575
Total supply (mil. bu.)	9237	10684	9075	+575/ -575
Use				
Domestic (mil. bu.)	4984	5200	5100	+365/ -365
Exports (mil. bu.)	1967	2050	2100	+250/ -250
Total use (mil. bu.)	6951	7250	7200	+550/ -550
Total ending stocks (mil. bu.)	2286	3434	1875	+550/ -550
FOR (mil. bu.)	1310	2750	--	
CCC (mil. bu.)	302	475	--	
Free (mil. bu.)	674	209	--	
Season-average price ($/bu.)	2.50	2.55	2.70-3.10	
Grain sorghum				
Participation 1/ (percent)	--	38	78	
Acreage harvested (mil. acres)	13.7	14.2	--	
CUA 2/ (mil. acres)	--	7	6.2	
Yield per acre (bu.)	64.1	59.0	--	
Supply:				
Beginning (mil. bu.)	109	297	547	
Production & imports (mil.bu)	879	841	700	+70/ -70
Total supply (mil. bu.)	988	1138	1247	+70/ -70

Appendix table. Effects of PIK on production, stocks, and use--continued

Commodity	Crop Year			
	1981	1982	1983	Prob.variation
Sorghum				
Use				
Domestic (mil. bu.)	442	366	436	+55/ -55
Exports (mil. bu.)	249	225	250	+40/ -40
Total use (mil. bu.)	691	591	686	+80/ -80
Total ending stocks (mil. bu.)	297	547	561	+80/ -80
FOR (mil. bu.)	232	475	--	
CCC (mil. bu.)	43	50	--	
Free (mil. bu.)	22	22	--	
Season-average price ($/bu.)	2.39	2.45	2.55-2.95	
Rice				
Participation 1/ (percent)	--	78	96	
Acreage harvested (mil. acres)	3.79	3.25	--	
CUA 2/ (mil. acres)	--	.4	1.7	
Yield per acre (cwt.)	4819	4742	--	
Supply				
Beginning (mil. cwt.)	16.5	49.0	65.2	
Production & imports (mil.cwt)	183.0	154.7	111.0	+7/ -7
Total supply (mil. cwt.)	199.5	203.7	176.2	+7/ -7
Use:				
Domestic (mil. cwt.)	59.4	61.0	64.5	+3/ -3
Exports (mil. cwt.)	82.1	67.5	67.50	+9/ -9
Residual (mil. cwt.)	9.0	10.0	10.0	
Total use (mil. cwt.)	150.5	138.5	142.0	+11/ -11
Total ending stocks (mil.cwt.)	49.0	65.2	34.2	+11/ -11
CCC (mil. cwt.)	19.0	35.0	--	
Free (mil. cwt.)	30.0	30.2	--	
Season-average price ($/cwt.)	9.05	8.00	8.50-10.00	
Upland cotton				
Participation 1/ (percent)	--	78	95	
Acreage harvested (mil. acres)	13.8	9.8	--	
CUA 2/(mil. acres)	--	1.6	6.7	
Yield per acre (lbs.)	542	581	--	
Supply:				
Beginning (mil. bales)	2.6	6.6	7.9	+0.6 -0.6
Production & imports (mil.bale)	15.6	11.9	9.1	+1.31 -1.3
Total supply (mil. bales)	18.2	18.5	17.0	+1.6 -1.6
Use:				
Domestic (mil. bales)	5.2	5.4	5.6	+0.7 -0.7
Exports (mil. bales)	6.6	5.4	6.0	+1.5 -1.5
Total use (mil. bales)	11.8	10.8	11.6	+1.9 -1.9
Difference unaccounted (mil. bales)	.2	.2	.1	
Total ending stocks (mil. bales)	6.6	7.9	5.5	+2.0 -2.0
Season-average price (lb.)	54.3	4/ 58.1	--	

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Appendix table. Effects of PIK on production, stocks, and use--continued

Commodity	Crop Year 1981	1982	1983	Prob. variation
Soybeans				
Acreage harvested (mil. acres)	66.4	70.8	--	
Yield per acre (bu.)	30.1	32.2	--	
Supply				
Beginning (mil. bu.)	318	266	380	
Production (mil. bu.)	2000	2277	2100	+200/-200
Total supply (mil. bu.)	2318	2543	2480	+200/-200
Use				
Domestic (mil. bu.)	1123	1213	1225	+70/-70
Exports (mil. bu.)	929	950	970	+70/-70
Total use (mil. bu.	2052	2163	2195	+100/-100
Total ending stocks (mil. bu.)	266	380	285	+75/-75
Season-average price ($bu.)	6.04	5.55	5.50-7.25	

1/ 1982 is complying base, and 1983 is enrolled base as a percent of total base.
2/ 1983 CUA (conserving use acreage) based on enrollment.
3/ Corn/sorghum CUA is assumed to be 84 percent corn and 16 percent sorghum.
4/ Weighted average, August-December.

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