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Report to the Honorable Jesse Helms, U.S. Senate

June 1987

FARM PAYMENTS

Implications of Targeting Farm Income Supports

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GAO

United States
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Resources, Community, and
Economic Development Division

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June 10, 1987

The Honorable Jesse Helms
United States Senate

Dear Senator Helms:

In response to your February 5, 1986, request, we have reviewed ways of targeting a greater share of farm income-support payments to those farmers experiencing financial stress. The report compares the potential effects of four general targeting options with identified objectives of agricultural policy.

We are sending copies of this report to the Director, Office of Management and Budget; the Secretary of Agriculture; and other interested parties.

This work was performed under the direction of Brian P. Crowley, Senior Associate Director. Other major contributors are listed in appendix IV.

Sincerely yours,

J. Dexter Peach
Assistant Comptroller General

Executive Summary

Purpose

Between 1981 and 1986, direct income-support payments to farms under certain U.S. Department of Agriculture (USDA) commodity programs grew from about $1.2 billion to an estimated $11.8 billion. Despite these expenditures, the farm sector has been characterized by severe financial stress and an increased number of farm foreclosures. This situation has led to concern that payments have not been received by farmers in greatest financial need.

In response to a request from the Chairman, Senate Committee on Agriculture, Nutrition, and Forestry, GAO analyzed possible ways to target a greater share of direct income-support payments to farmers in greatest financial need.

Background

USDA, through its Agricultural Stabilization and Conservation Service (ASCS) administers several farm programs designed to stabilize and enhance the prices of certain agricultural commodities and the incomes of producers who grow them. Wheat, feed grains, cotton, and rice are the major crops covered by these programs, and are called program crops. Farmers who enroll in these voluntary programs are eligible for, among other things, direct income-support payments, called deficiency payments, and price-support loans. This report focuses only on options for changing the direct income-support aspect of these programs. With some exceptions, a farmer's deficiency payments by law cannot exceed $50,000 per year.

For a farmer who enrolls in the program, deficiency payments are calculated by multiplying estimated program crop production by the legislatively established payment rate. With certain exceptions, the larger the volume of program crops a farmer produces, the greater the payment the farmer is eligible to receive. This concept has characterized farm programs since their origin in the 1930s, when farms were less varied in size than today. However, the farms that currently produce the greatest volume, and therefore receive the largest share of the payments, are not necessarily those in greatest financial need.

Results in Brief

The options GAO analyzed include (1) reducing the current $50,000 annual payment limitation, (2) applying lower crop payment rates to large-sized farms and higher payment rates to smaller farms, (3) applying payment rates that decline as the production volume on each farm increases, and (4) making payments only to farmers, otherwise eligible for deficiency payments, with demonstrated financial need. (GAO

also looked at the potential effects of extending the latter option to all farmers.) These options would, with varying precision, generally provide a greater share of income supports to low-income farms. However, these targeting options could, if implemented, also have positive and/or negative effects on other agricultural policy goals that have been articulated in farm legislation. Therefore, if the Congress wishes to change the direction of the existing income-support programs by targeting more assistance to farmers in financial need, it needs to identify which policy goals are most important.

The outcome of each option depends greatly on specific program design, particularly on how the target population is defined. Farms differ greatly in terms of financial condition, the type of products they produce, size, ownership and operating arrangements, and amounts of farm and nonfarm income. These characteristics have important implications for designing programs to target farm income-support payments. For example, some farms with small program crop production have substantial income from nonprogram crops or other sources; thus, targeting more payments to farms with smaller program crop production could better help some financially needy farms, but could also allow payments to financially well-off farms.

GAO's Analysis

GAO compared the potential effects of each targeting option with agricultural policy goals articulated in farm legislation. These goals include: supporting farm income, encouraging adequate commodity production, preserving family farms, fostering an efficient agricultural system, ensuring administrative feasibility, and controlling federal budget outlays. The options represent a synthesis of targeting concepts rather than specific program proposals. Without well-defined program parameters such as eligibility requirements or payment rates, GAO could not quantify the precise effects of each option on such things as crop production, program participation, or farm income. Because specific program designs can vary substantially, GAO focused this report on how the potential effects of each option compare with policy goals. GAO plans to issue a separate report quantifying potential effects of more specific targeting proposals.

Reducing the Current Annual Payment Limit

This option could potentially reduce income support to higher-income farms. It would not provide more income support to lower-income farms, but could provide a greater share of payments to this group. Other potential effects of this option are lower program costs and smaller long-

run commodity surpluses. This option would likely decrease government control over the supply of program crops.

Applying Different Payment Rates

By applying lower crop payment rates to larger-sized farms and higher payment rates to smaller farms, this option would tend to direct more income support to low-income farms and reduce that paid to higher-income farms. Other potential effects include a smaller loss of family farms and smaller long-run agricultural surpluses. This option would not likely lead to more efficient program crop production and would decrease government control over the supply of program crops.

Applying Declining Payment Rates

This option would apply payment rates that decline as the production volume on each farm increases. This would result in effects similar to those from applying different payment rates, including more income support to lower-income farms and reduced income support to higher-income farms. However, the effects of each of these options, particularly program costs, depend largely on the specific payment rates established.

Making Payments Based on Financial Means Test

This option would impose a financial means test on farmers eligible for deficiency payments under current programs. By definition, this would tend to provide more income support to low-income farmers and reduce income support to higher-income farmers. If it were extended to include all farmers, a major question inherent in this option is whether it would (1) encourage a significant number of farmers, who otherwise may have exited farming, to continue and (2) induce nonfarmers to become farmers in order to qualify for this farm-specific benefit. Therefore, the cost of this option is uncertain. This option would not likely lead to more efficient program crop production or achieve better government control over program crop supply, and would be significantly more difficult to administer.

Matters for Consideration

A decision by the Congress to target income-support payments to farmers in greatest financial need requires careful consideration of the importance of agricultural policy goals. Three of the targeting options GAO analyzed would tend to provide a greater share of payments to farms in financial need, but would do so imprecisely. Only the means-tested option precisely focuses payments on the financially needy. However, this option represents a major policy change. It would likely be

more difficult to administer than current programs and could cause American agriculture to change in ways that cannot be easily predicted.

Agency Comments

GAO submitted the draft of this report to USDA for comment. ASCS did not provide comments. Officials of USDA's Economic Research Service suggested changes to make the report more technically accurate. Based on their comments, GAO made changes to the draft where appropriate.

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Abbreviations

ASCS	Agricultural Stabilization and Conservation Service
AFDC	Aid to Families With Dependent Children
CBO	Congressional Budget Office
CCC	Commodity Credit Corporation
ERS	Economic Research Service
FAPRI	Food and Agricultural Policy Research Institute
FAPSIM	Food and Agricultural Policy Simulator
FCRS	Farm Costs and Returns Survey
FOR	farmer-owned reserve
GAO	U.S. General Accounting Office
HEW	U.S. Department of Health, Education, and Welfare
HHS	U.S. Department of Health and Human Services
OTA	Office of Technology Assessment
RFF	Resources for the Future
USDA	U.S. Department of Agriculture

Introduction

The federal government has established farm programs that are intended to stabilize and enhance the prices of certain agricultural commodities and the incomes of producers who grow the commodities. The programs are administered by the U.S. Department of Agriculture (USDA) and participation by farmers is voluntary. Major crops covered by the programs include wheat, feed grains (corn, grain sorghum, barley, and oats), cotton, and rice. Participating farmers are eligible to receive, among other things, direct income-support payments. These payments have grown substantially in recent years, from about $1.2 billion for the 1981 crop year[1] to an estimated $11.8 billion for crop year 1986.

Designed in the 1930s to address the perennial problem of the American farmers' ability to produce far more than can be consumed domestically or sold abroad, these programs have retained many basic features. However, the structure of American agriculture has changed extensively, along with the national and international environment in which it operates. Economic conditions for much of agriculture in the 1980s have been generally adverse, characterized by low commodity prices, large surpluses, reduced exports, and an increased number of farm foreclosures.

Despite unprecedentedly high USDA expenditures to support commodity prices and farmers' incomes, financial stress in agriculture persists. From fiscal year 1984 to 1985, when total federal outlays increased by about 11 percent, agricultural outlays increased by more than 88 percent. At about the same time, net farm income declined by about 7 percent, and the number of failures among agricultural crop production businesses increased by almost 60 percent. Policymakers are concerned that program benefits are not effectively helping those farmers experiencing the greatest financial difficulties.

Farm Price- And Income-Support Programs

Agricultural price-support programs are intended to indirectly maintain farm income by maintaining program commodity prices at specified levels in times of surplus. The direct income-support program is designed to protect participating farmers' incomes by making payments (called deficiency payments) when prices fall below a target price established by law. Under these programs USDA may require participating farmers to idle some of their land to help avoid large surpluses.

[1]The year in which a crop is harvested.

Agricultural price supports attempt to maintain farmers' incomes indirectly by supporting the prices of the commodities the farmers produce. Price supports are authorized by the Agricultural Act of 1949, as amended (7 U.S.C. 1421 et seq.) and the Agricultural Adjustment Act of 1938 (ch. 30, 52 Stat. 31). To carry out the programs, USDA's Commodity Credit Corporation (CCC)[2] is authorized to, among other things, make price-support loans to participating farmers. Regular price-support loans are nonrecourse; that is, when market prices are lower than the loan rate,[3] farmers may keep the loan proceeds and CCC accepts the commodity as full reimbursement. In addition, farmers may obtain farmer-owned reserve (FOR) loans for wheat and feed grains, under which their crop is stored at CCC expense for up to 3 years. FOR loans help support prices by keeping the crops from the market until a prescribed market price is reached. Price-support loans thus ensure a minimum price for participating farmers.

Instituted by the Agriculture and Consumer Protection Act of 1973 (Public Law 93-86, 87 Stat. 221, Aug. 10, 1973), deficiency payments act to separate price supports (which apply to crops) from income supports (which apply to farmers). In contrast to crop price supports, deficiency payments are a direct income supplement for participating farmers. They are made when national average (market) prices received by farmers fall below established target prices for program commodities. Target prices are established by law; the target prices for the 1986 through 1990 crops of wheat, feed grains, cotton, and rice were established by the Food Security Act of 1985.

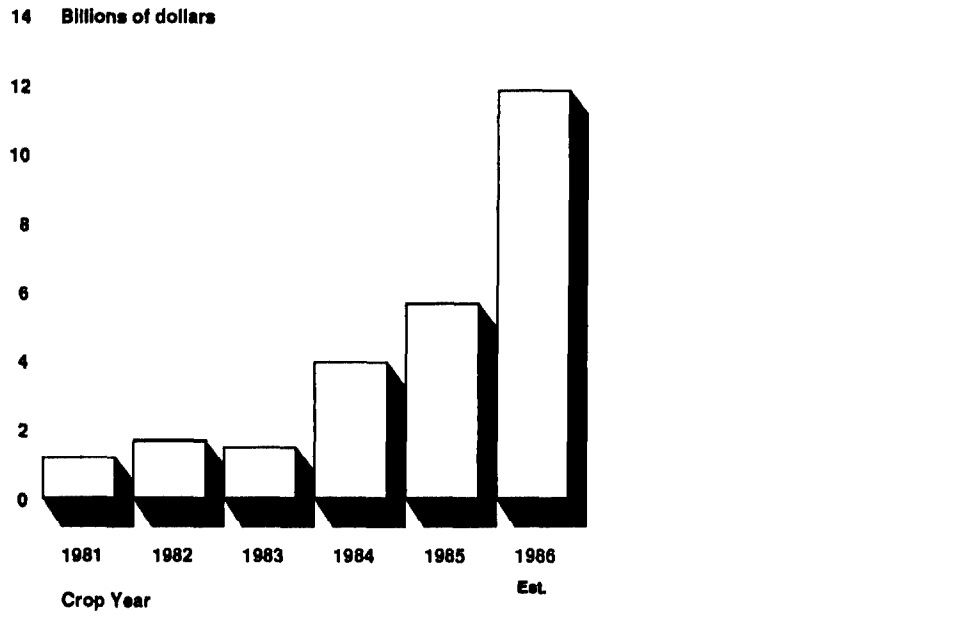
For each program crop, deficiency payments are calculated as the difference between the target price and the higher of (1) the national average price received by farmers or (2) the loan rate. For example, the target price for 1985 crop-year wheat was $4.38 per bushel, while the national average price received by farmers was $3.18 per bushel. Participating farmers received a deficiency payment of $1.08 per bushel for their wheat (the target price of $4.38 less the nonrecourse loan rate of $3.30).

[2]CCC is a wholly-owned government corporation created to stabilize, support, and protect farm income and prices. It has no operating personnel; instead, CCC's activities are carried out by USDA's Agricultural Stabilization and Conservation Service (ASCS).

[3]The loan rate is the dollar amount per unit of production (bushel or pound) that CCC loans to farmers. For example, the national average loan rate for 1985 wheat was $3.30 per bushel.

As figure 1.1 shows, deficiency payments for the major crops under the price- and income-support programs have grown substantially in recent years.

Figure 1.1: Deficiency Payments, Crop Years 1981-86



One important feature of agricultural price- and income-support programs is supply control. For any given crop year, if the Secretary of Agriculture determines that a major commodity is likely to be in oversupply, the Secretary may require acreage reductions. Under this provision, farmers choosing to receive price-support commodity loans and deficiency payments are required to remove a specified portion of their farm acreage from program-crop production. The Secretary may also institute a voluntary paid land-diversion program, under which participating farmers are required to remove a specified acreage from production (in addition to any land removed for an acreage reduction requirement). In return, farmers receive a direct payment, in cash or commodities, for the commodities that they would have grown on the idled acres. These are called diversion payments.

With certain exceptions, total deficiency and diversion payments are limited by law to $50,000 per person per year. Total payments,

including those exempted from the $50,000 limit, are limited by law to $250,000 per person per year.

Agriculture in the 1980s Shaped by Adverse Economic Forces and Continued Structural Change

Agriculture today is the product of significant change over the years. For example, today's farms are much more crop-specialized, more capital-intensive, and more reliant on markets abroad than they were just 10 years previously, according to a 1984 USDA report. U.S. farmers are more affected by general economic developments and policies, both here and abroad. The structure of American agriculture has changed over time in response to such economic developments.

Economic Conditions Have Led to Farm Financial Stress

Farm financial stress during the 1980s can be linked to changes in the world and domestic economies as well as government programs. During the 1970s, farmers' sales increased and their asset values rose, resulting in rapid expansion of production. The boom was fueled by the expansion of overseas grain markets, rapid economic growth in other countries, and a weak dollar that made U.S. products relatively inexpensive.

The 1980s brought a reversal in those economic forces that had led to the expansion. On the international level, foreign economic growth waned and debt problems restricted other nations' abilities to buy U.S. agricultural products. Also, the strengthening dollar made U.S. agricultural products relatively more costly and encouraged foreign countries to expand production; U.S. exports declined from a peak of $44 billion in 1981 to about $26.3 billion in 1986. As the market weakened and farm prices declined, government price and income supports provided some incentive for farmers to continue or expand production.

U.S. farmland values fell 12 percent in 1985, continuing the downward trend that began in 1981. The average price per acre in February 1986 was $596, down from $679 in April 1985 and the peak of $823 in the early 1980s. Lowered farmland values reflected high real (inflation-adjusted) interest rates, the generally depressed farm economy, and more foreign production of agricultural commodities and contributed to financial stress for farmers with large debts.

Net farm income also declined during 1985, falling 6.7 percent from its 1984 level (from $32.7 billion to $30.5 billion). According to USDA's Economic Research Service (ERS), the 1985 decline was attributable in part to low prices. For example, prices received by farmers for all agricultural commodities (crops, livestock, dairy and poultry products) fell

about 10 percent in 1985, the largest annual decline since 1953. Crop prices fell 13 percent, as near-record output and diminished foreign and domestic demand combined to create huge quantities of surplus stocks.

The adverse economic conditions for farming have in turn affected other parts of the economy, particularly farm financial institutions. For example, among the major institutions that lend money to farmers, almost 25 percent of the outstanding farm debt was considered nonperforming or delinquent during 1985, up from about 20 percent in 1984. A major lender, the Farm Credit System, experienced net losses of $2.7 billion in 1985 and an estimated $1.5 billion for the first three quarters of 1986.

Structure of Agriculture Has Changed

When the commodity price-support programs began in the 1930s, farms were numerous and relatively small. There were fewer differences between the smallest and largest farms. At that time, about 25 percent of the population lived on about 6.4 million farms. By 1985, less than 3 percent of the population lived on about 2.3 million farms.

During the 1930s, farmers depended almost entirely on farming for their livelihood. However, such dependence does not characterize U.S. agriculture today. Revenue-generating ability in agriculture is concentrated in a relatively few larger farms. For example, farms with annual sales exceeding $100,000 represent only 14 percent of all farms, yet account for almost 70 percent of total gross farm sales. At the other end of the scale, nearly 60 percent of farms are small operations (sales of less than $20,000 per year), accounting for slightly more than 9 percent of total gross farm sales. Many of these smaller farms are characterized by USDA as more rural residences than farms, and their operators earn a significant and in some instances predominant share of their income from off-farm sources.

Are Existing Programs Appropriate for Today's Agriculture?

The current commodity program concepts of supporting commodity prices and farmers' incomes are basically the same as those developed during the 1930s. Just as programs did then, today's programs distribute benefits to participating farmers based on the volume of program commodities that each produces. With some exceptions, the more a farmer produces, the more benefits (loans and direct payments) the farmer can receive. Conversely, farmers that produce smaller volumes of program commodities are eligible to receive less benefits.

However, the farmers producing the greatest volumes of program commodities—and receiving the largest payments—are not necessarily those facing the most financial stress. As recent GAO reports and press accounts have described, large payments have been received by farms that by some measures are financially well off.

Despite large and increasing expenditures for agricultural price- and income-support programs during the 1980s, financial stress in agriculture has continued. Furthermore, the increasing commodity program expenditures, like other growing areas of the federal budget, are counter to administration and congressional attempts to reduce the national deficit. Policymakers are thus faced with attempting to help farmers during a period of financial stress while simultaneously trying to control federal spending.

These concerns have led to proposals to overhaul farm programs. The proposals range from instituting mandatory production quotas to targeting program benefits, particularly income-support payments, to specific farm populations. As requested, this report presents our analysis of various targeting options—ways to direct a greater share of income-support payments to producers in greatest need of financial assistance. The options range from simply lowering the current $50,000-per-year payment limit on a farmer's total payments to basing program payments on each farmer's demonstrated financial need.

For fiscal year 1988, the administration proposed a policy of "decoupling" farm income supports from production of program crops. Under the decoupling provision, participating farmers who produce program crops—wheat, feed grains, cotton, and rice—could continue to receive up to 92 percent of what their income supports would be under current provisions even if they did not plant any program crops. The decoupling proposal shares one feature common to some targeting proposals—basing income-support payments on factors other than actual program-crop production. However, the decoupling proposal is not a true targeting proposal; it is not designed specifically to direct a greater share of payments to the neediest farmers. Therefore, we have not included it in our analysis.

Objectives, Scope, and Methodology

We initiated this review in response to a February 5, 1986, letter from the Chairman, Senate Committee on Agriculture, Nutrition, and Forestry. As agreed with the Chairman's office, our objectives were to (1) analyze ways of targeting a greater share of income-support payments

to producers in greatest financial need and (2) relate the farm ownership, operating, and financial characteristics of existing commodity program income-support payment recipients to targeting options. The payment recipient characteristics include farm operator status, form of business organization, financial condition, income earned from farming versus off-farm sources, and size.

Payment Recipient Description

We used several USDA automated data files to collect and analyze information about commodity program payment recipients for 1985, the most recent year for which data were available at the time of our analysis. We did not include price-support loan data in our analysis because loans are not direct income supports.

The primary source for these data was the USDA's Farm Costs and Returns Survey (FCRS), a nationwide, probability-based survey of farm operators. For 1985, the survey resulted in about 11,500 usable observations representing an estimated 1.6 million farms, out of an estimated nationwide total of 2.3 million. More information about FCRS appears in appendix II.

We used FCRS data to provide information on farms participating in government programs (participating farms) and all other farms responding to the survey (nonparticipating farms). USDA's Economic Research Service sorted and cross-tabulated these data for farms with various production, sales, debt, and financial characteristics. The primary financial characteristics used include net cash farm income and the ratio of farm debt to farm assets. We relied on the technical accuracy of ERS programming in the compilation of FCRS data tables.

A second source of data was the Agricultural Stabilization and Conservation Service's farm and payment files. These files contain records of each farm participating in the crop price- and income-support programs, as well as records of payments made to each producer. The files contained information for about 920,000 farms for the 1985 crop year. We used this data base to identify the payments made to each participating farm, the acres planted to program crops, and each farm's form of business organization.

While both sources provide information about commodity program participants, FCRS and ASCS data are not comparable for several reasons.

FCRS data are derived from a sample survey of participating and nonparticipating farms, designed so that the data are statistically representative of a larger number of farms. In contrast, ASCS data files are set up to contain information about all participating farms. (The 1985 files were about 98 percent complete at the time of our analysis.) Moreover, FCRS provides more comprehensive, detailed data about each farm operation, including all crops produced and sold, costs of production, balance sheet and income measures, and farm ownership and management. ASCS data are limited generally to program crop acreage, yields and production, and government payments. Further, FCRS and ASCS do not use the same definition of "farm." FCRS is a survey of farm operators. In contrast, ASCS data include all payment recipients, whether or not they are farm operators for FCRS purposes.

Because FCRS provides more detailed information, our analysis relies more on FCRS data, with ASCS data used to supplement the FCRS data where appropriate. We did not independently verify the accuracy of the FCRS and ASCS data; rather, we relied on their accuracy because the data are routinely collected and widely used. More details about these data sources and the differences between them are presented in appendix II.

Analysis of Targeting Options

To evaluate policy options for targeting more agricultural income support to farms in financial need, we analyzed the extent to which various targeting options meet identified agricultural policy objectives. We first identified various proposals for changing the current agricultural income-support program to target relatively more payments to farmers in financial need. We did this through extensive literature research and interviews with policy authorities and USDA officials. The sources we used are listed in the bibliography (app. III).

We identified agricultural policy objectives by (1) reviewing major pieces of agricultural legislation between 1933 and 1985, (2) researching major policy studies and other professional literature, and (3) interviewing agricultural policy authorities and USDA officials. To facilitate our analysis, we converted the broad agricultural policy objectives we identified into a number of specific goals. We used the identified agricultural policy goals as criteria to evaluate each targeting option. The resulting analysis, largely qualitative in nature, discusses the objectives and potential effects of each option as they relate to each of the agricultural policy goals we identified. Where possible, we supplemented this analysis with published research and the results of simulations from USDA's Food and Agricultural Policy Simulator (FAPSIM) model. We also

interviewed key USDA officials responsible for implementing the commodity programs to assess the options' administrative feasibility.

We are currently preparing a report that analyzes several specific targeting options, including estimates of how these proposals affect the farm economy as well as individual farms. We plan to issue this report later in 1987.

The draft report was reviewed by several agricultural policy experts, including Luther Tweeten, professor of agricultural economics at Oklahoma State University; Bruce Gardner, professor of agricultural economics at the University of Maryland; and Alex McCalla, professor of agricultural economics at the University of California. We asked these experts to review and comment on our report because each had published articles and/or books concerning agricultural policy alternatives, including directing benefits to farmers based on financial need. In addition, we submitted the draft version of this report to USDA for comment. ASCS did not provide comments. Officials of USDA's Economic Research Service suggested changes to make the report more technically accurate. Based on these comments, we made changes to the draft where appropriate.

Our review was made between February 1986 and January 1987. Except that we did not verify the accuracy of the automated data obtained from USDA and from FAPSIM, our review was conducted in accordance with generally accepted government auditing standards.

The remainder of this report discusses our analysis of targeting options. Chapter 2 presents the options and assesses the potential of each for achieving the identified goals of agricultural policy. Chapter 3 provides information on farm characteristics, important to targeting proposals because they are used to identify the populations to which payments are targeted.

Targeting Options Could Help Achieve Some Agricultural Policy Goals

Our analysis of targeting options suggests that they could provide a greater share of income-support payments to farms in financial need than do existing programs. However, our analysis also indicates that these options could negatively affect other important agricultural policy goals articulated in farm legislation since the 1930s.

The options we analyzed represent a synthesis of targeting concepts evident in proposals by Members of Congress and in published policy research, rather than precise program proposals. Without well-defined program parameters such as eligibility requirements or payment rates, we could not quantify the precise effects of each option on such things as production, participation, or farm income. Rather, we compared the concepts underlying each option with current programs to estimate each option's potential for meeting identified policy goals.

Targeting Policy Options

During policy deliberations surrounding passage of the Food Security Act of 1985, Members of Congress put forth proposals that, among other things, would have changed the way that income-support payments are calculated and/or distributed. In addition, a number of agricultural policy conferences, studies, and reports considered ways to redirect farm income supports. Generally, these proposals would attempt to target a greater share of agricultural income-support payments to farmers in greatest need of financial assistance. The proposals consisted of variations on the following four options:

1. Lower the payment limit. Continue the current system of deficiency payments, but lower the permissible maximum payment. This policy would not necessarily exclude any farm or farmer from eligibility for income support if they are eligible under current programs. This policy would not increase payments to any particular farm but would provide a greater share of payments to smaller-production farms.

2. Base payments on farm size. Change the basis on which deficiency payments are calculated by applying different crop payment rates (target prices) to farms according to a measure of farm size, such as aggregate farm sales level, program-crop sales level, aggregate farm acreage, program-crop acreage, or program-crop production volume. This policy would increase payments to smaller farms while decreasing payments to larger farms. This option could exclude payments to some producers who currently receive income-support payments, depending upon the specific payment schedule used.

3. Inverse scaling. Change the basis on which deficiency payments are calculated by applying payment rates that, for each farm, decline as the farm's production volume increases ("inverse scaling" or "graduated payment rates"). This policy would increase payments to smaller-production farms and decrease payments to larger-production farms. This policy would not necessarily exclude any farm or farmer from eligibility for income support payments if they are eligible under current programs.

4. Means test. Change the basis for determining who is eligible for receiving income supports to include a financial means test, or assessment of financial condition. Financial "need" could be determined by measuring net farm income, farm household income, net worth, debt-to-asset position, or combinations thereof. This policy would exclude from eligibility those producers who did not pass the means test, whether or not they currently receive income-support payments.

Approach and Assumptions Used in Analyzing Targeting Options

To analyze the four basic targeting options, we first identified agricultural policy goals as stated in farm legislation. While a major goal of farm policy since the 1930s has been supporting and stabilizing farm income, a number of other goals have been articulated. For example, the stated purposes of the Food and Agriculture Act of 1981 include providing price support for farmers, assuring consumers an abundance of food and fiber, supporting food and agriculture research, and promoting soil and water conservation. Other goals mentioned in farm legislation include preserving a "family farm" system of agriculture, encouraging rural development, fostering domestic and foreign demand for agricultural products, conserving soil and water to meet the demand for food by current and future generations, and fostering a flexible and efficient agricultural system.

For our analysis, we converted these broad agricultural policy goals into a number of specific goals. We viewed each of the goals equally; that is, we did not assign greater weight to one over another. However, the income-support goal was especially important to our analysis. Historically, providing both price and income protection for farmers has meant not only shielding their farm incomes from declining prices, but also assuring them some measureof price and income parity.[1] According to

[1]Parity is the concept of providing farmers with prices that will give a farm commodity the same purchasing power it had in a selected base period (January 1910 through December 1914) when prices received and paid by farmers were considered to be in good balance.

ASCS, a commodity program objective is maintaining farm prices and aggregate farm income at a reasonable and relatively stable level compared to the nonfarm economy.

However, reviewing ways in which income support payments could be directed to farmers in greatest need (however "financial need" is defined) requires consideration not only of the aggregate level of assistance, but also how that assistance is distributed over the farm sector. Therefore, we incorporated into our definition of "income support" the concept of distributing payments to specific target groups of farmers while avoiding payments to other groups.

The goals we identified are:

- Price support. Policy should cushion the amount by which program-crop prices received by farmers can fall.
- Income support. Policy should provide income support to low-income farmers while avoiding subsidies to those farmers with incomes above the national average non-farm-family income.
- Adequate supply. Policy should encourage enough crop production to avoid shortages and/or sharp increases in food prices to consumers, even under adverse weather conditions.
- Family farms. Policy should help avert a large decline in the number of self-employed households engaged primarily in agricultural production.
- Efficiency. Policy should ensure that crops and livestock are produced and distributed at minimum cost to meet the adequate supply objective.
- Conservation. Policy should encourage conserving soil and water for present and future generations.
- Administrative feasibility. Policy should be capable of implementation with reasonable administrative effort.
- Budget. Policy should avoid unnecessarily large federal budget outlays in meeting the above goals, but it should do so without imposing high prices on consumers.

In evaluating the targeting options, we assumed that each would replace the current deficiency payment program, but that USDA price-support operations—especially the price-support loan program—would continue unchanged. (We made this assumption because we were asked to focus on changes to the direct income-support program.) Price-support loans would continue to cushion the amount by which prices received by farmers for the supported commodities would fall; the goal of price support would be largely unaffected by these targeting proposals. Therefore, we did not estimate the effect of each option on this goal. Similarly,

we assumed that there would be no changes to USDA's paid diversion program or acreage reduction requirements associated with price-support loans.

These assumptions mean that an important component of existing programs would be retained. (As under existing programs, participation in the price-support loan program would be voluntary; however, a farm participating in the loan program might or might not receive income supports under a program that targeted benefits to the financially needy.) As a result, the effects of the targeting options we analyzed are somewhat less than they would be if all program benefits, including price-support loans, were targeted.

We defined a family farm as one operated by an operator whose primary occupation was farming, because FCRS data could be used with this definition. "Family farms" are difficult to define because (1) farms can be organized in various ways and (2) there are questions as to the appropriate definition of "family" (for example, nuclear or extended family). In a 1979 report to the Senate Committee on Agriculture, Nutrition, and Forestry, USDA concluded that no single definition of family farm is satisfactory for all purposes.[2] ERS has defined a family farm as one not operated by a hired manager, not organized as a nonfamily corporation, and not a county or prison farm.

For purposes of assessing the effects of targeting options on the goal of efficiency, we identified three basic ways in which that goal could be affected. For maximum efficiency, government programs should (1) ensure that program crops are produced and distributed at minimum cost, (2) provide incentives for optimum use of resources devoted to agricultural production, that is, an efficient distribution of resources across both crop (including nonprogram crops) and livestock production, and (3) discourage excessive resources being devoted to agriculture (instead of other economic activity), thereby reducing the likelihood of burdensome agricultural surpluses. Because targeting income supports can affect these aspects of efficiency in different and conflicting ways, it is difficult to estimate overall effects. For example, basing payments on farm size could achieve greater efficiency across crop and livestock production if it meant smaller government subsidies to program-crop production, and it could increase the likelihood of a smaller surplus in

[2]Status of the Family Farm, Committee Print of the Senate Committee on Agriculture, Nutrition, and Forestry (U.S. Government Printing Office, Washington, D.C., 1979).

the long run; however, this option would not provide for more efficient program-crop production.

Assessing the overall effects of each option on the goal of conserving natural resources was problematic, because each option could have conflicting influences on conservation. Estimating specific effects on conservation is difficult because the effects depend on possible changes in (1) the volume of crop production, (2) the mix of crops farmers choose to grow and (3) the cultivation practices applied to each crop. Options that would lead to long-run declines in the supply of program crops could enhance conservation as farmers retired fragile lands and found it less profitable to farm their remaining land intensively. However, farmers might increase their production of nonprogram crops, in which case the effects on conservation would depend on the extent of added production and the cultivation practices followed for each specific crop.[3] Because of these uncertain and conflicting influences, we did not estimate the effect of each option on this goal.

Programs could be designed under each option that would apply to a specific crop or crops. We assumed that each option would apply to crops currently covered by deficiency payments— wheat, feed grains, rice, and cotton; therefore, farmers of these crops would be affected. We also assumed that the means-test option could apply to all agricultural producers. Thus, our analysis incorporates two versions of the means-tested option: one applying to farmers currently growing program crops and a comprehensive version applying to all farmers.

Finally, we assumed that any decrease in target prices (and therefore the payment rate to farmers) would result, in the short run, in a net increase in production. Specifically, we assumed that any increased production from acres previously diverted to meet program participation requirements would offset any decreased production from lower payments to farmers. For our analysis, a decrease in participation under each targeting option means a decrease in both the price-support loan program as well as in the income-support program.

The precise production effects of lower target prices and deficiency payments are uncertain. Our assumption is based in part on a study by the

[3]For a more comprehensive discussion, see "Analysis of Policies to Conserve Soil and Reduce Surplus Crop Production" (USDA, 1985); and "Do USDA Farm Program Participants Contribute to Soil Erosion?" (USDA, 1985).

Food and Agriculture Policy Research Institute (FAPRI), a research organization sponsored by the University of Missouri and Iowa State University. Also, according to USDA, simulations using FAPSIM show short-run increases in program-crop supply followed by long-run declines in response to lower target prices. Chase Econometrics reported similar results using its policy model. However, these effects depend on the magnitude of the target price decrease; small decreases might not result in the assumed effects.

Our analyses of the four options are summarized in table 2.1 and discussed in detail in the following sections.

Table 2:1. How Targeting Options Compare With Agricultural Policy Goals

Objective	Lower Payment limit	Base payments on farm size	Inverse scaling	Means test	
				Limited	Comprehensive
Income Support					
Increased direct income support to lower-income farms	E	B	B	A	A
Reduced direct income support to higher-income farms	B	B	B	A	A
Adequate Supply					
More government control over program-crop supply	D	D	D	D	D
Larger long-run supply of program crops	D	D	D	D	D
Larger supply of nonprogram crops and livestock	B	B	B	B	B
Family Farms					
Smaller likelihood of loss of family farms	C	B	B	B	C
Efficiency					
More incentive for efficient program-crop production	D	D	D	D	D
Greater efficiency across crop and livestock production	B	B	B	B	B
Greater likelihood of smaller long-run surplus	B	B	B	B	B
Administrative feasibility					
Not significantly more difficult to administer than current programs	A	B	B	D	E
Budget					
Greater likelihood of lower budget outlays	B	C	C	C	D
Greater likelihood of higher participation in farm programs	D	D	D	D	D

Legend

A - Option meets policy goal.

B - Option tends to meet policy goal.

C - Option's effect is unclear.

D - Option tends not to meet policy goal.

E - Option does not meet policy goal.

Lower the Permissible Maximum Payments

This option would simply reduce the limit, or cap, on direct payments from the current $50,000 to some lower figure.[4] During debate on the 1985 farm act, several proposals were made to lower the payment limit. For example, one proposal was for an initial increase followed by a gradual decline in maximum payment, from $63,000 in 1986 to $31,500

[4]As mentioned previously, certain payments are currently exempt from the $50,000 limit. Total payments are currently limited to $250,000 per year.

by 1990.[5] USDA has also considered the feasibility of reducing the maximum payment from the current $50,000 to $10,000 after 4 years.

According to ASCS data, if the direct payments limit for 1985 had been reduced to $40,000, only about 2.9 percent of the 1985 crop-year producers would have been affected (those who received more than $40,000). Reducing the payment cap to $20,000 would have reduced the direct payments received by about 8.1 percent of the 1985 crop-year producers.

Impact on Agricultural Policy Goals

Overall, our analysis suggests that this option, compared to current programs, could reduce income support to higher-income farms, lower agricultural budgetary costs, enhance efficiency across agricultural crop and livestock production, and result in smaller agricultural surpluses in the long run. By itself, this option would not provide more income support to low-income farms (although by reducing income support to high-income farms, it would increase the support-payment share of low-income farms). This option would probably not provide better government control over the supply of program crops. In addition, it could lead to less-efficient program-crop production.

The following sections discuss in detail the extent to which lowering maximum deficiency payments, when compared with the existing program payment limit of $50,000 per year, potentially meets the identified goals of agricultural policy.

Income Support

A lower maximum payment would affect individual farmers depending upon their proximity to the current payment limit. Farmers who currently qualify for the maximum payments would, under new lower limits, receive smaller payments. Farmers who do not currently qualify for maximum payments, and would not qualify for the maximum under a lower limit, would not be directly affected.

Farmers who qualified for maximum payments under the lower limit—and who would receive less income support than under the current limit—tend to have larger farms, production, and/or program-crop sales. To the extent that farmers with larger crop sales have higher

[5]This proposal, by Senators Boren and Boschwitz, would have established "transition payments" for farmers growing major crops. According to the proposal, these direct payments would have provided the same income over variable costs as earned in 1985.

incomes than farmers with smaller sales who would be less affected by lower payment limits, this option could better avoid payments to higher-income farmers.[6]

However, compared to the current limit, farmers who qualified for maximum payments under a lower limit would have a greater incentive to restructure their operations, such as by subdividing farms among family members, in order to circumvent the lower payment limit. We recently reported that the number of new producers—payment recipients identified by ASCS—resulting from farm reorganizations involving a producer nearing the payment limit increased between 1984 and 1986.[7]

Supply

A lower payment limit could result in fewer farmers electing to participate in the commodity programs and in somewhat more reliance on the marketplace; thus, the government would have less control over production of program crops. This result could occur even if price-support loans were still available, because a lower limit on deficiency payments would reduce the expected monetary return from program participation. However, determining whether this loss of control would lead to a food shortage and/or sharply increasing food prices is difficult because lower participation could have countervailing effects:

- In the short run, lower participation by larger farms could mean a bigger supply of program crops as these farms return diverted acres to production. Using a version of USDA's Food and Agricultural Policy Simulator to simulate a lower payment maximum showed that reduced participation, fewer diverted acres, and greater production of program crops could result.
- In the long run, lower participation could mean reduced production of program crops as large farmers sought higher returns elsewhere. Because of smaller subsidies on program crops, some farmers might find it more profitable to increase their production of nonprogram crops and livestock. For example, simulations using FAPSIM suggested that lowering the payment limit would lead to a small increase in livestock production.

[6]As discussed in chapter 3, FCRS data suggest that (1) farms with larger overall sales tend to have higher net cash farm incomes than farms with smaller sales and (2) farms with relatively high overall sales also have relatively high program-crop sales. However, there are important exceptions; for example, the Congressional Budget Office (CBO) noted in a 1985 report that "several thousand of the nation's largest farmers that harvest relatively small crop areas . . . are mainly livestock or dairy farms with sales of $500,000 or more."

[7]Farm Payments: Farm Reorganizations and Their Impact on USDA Program Costs (GAO/RCED-87-120BR, April 1, 1987).

Family Farms

The loss of family farms resulting from lower limits depends on how many such farms fall within each program-crop sales class and how these various sales classes fare in terms of net income. It also depends critically on how low the payment limit is. Unfortunately, data on incidence of family farms across sales classes are not readily available, partly because (as previously noted) a "family farm" is difficult to define precisely.

One factor that helps distinguish types of farm operations is the operator's primary occupation. For our analysis, we assumed that farms on which the operator indicated that his/her primary occupation was farming are more likely to be family farms. FCRS data show that in 1985 only about 10 percent of such farms had large sales—$250,000 or more per year—and nearly 44 percent of such farms had sales of less than $40,000 per year.[8] Thus, there are probably fewer family farms in the larger sales classes.

The larger farms are more likely to be affected by a lower payment limit. Therefore, a lower payment limit could cause some decline in the number of family farms with larger program-crop sales. The effect on family farms with smaller sales is less clear. As the maximum payment limit is reduced further, more family farms would reach the limit and therefore receive less payments than under the current limit.

Efficiency

A lower maximum payment could affect incentives to produce in several ways. In agriculture, a pattern of least-cost production is characterized by farmers with lower production costs profitably harvesting more bushels than farmers with higher costs. Under the current programs, most participating farmers receive the same subsidy on each bushel harvested, since relatively few farmers qualify for the maximum $50,000 payment. Because this subsidy is uniform (the calculated payment per bushel is the same for all bushels), it does not distort the pattern of least-cost production. Each farmer can be expected to produce up to the quantity where the marginal cost of production equals the target price.[9] Farmers with lower marginal cost schedules would tend to produce more than farmers with higher marginal cost schedules.

[8]For all farms, regardless of the operator's primary occupation, slightly over 7 percent had sales of $250,000 or more, while about 33 percent had sales ranging from $40,000 to $250,000. The remainder, nearly 60 percent, had sales of less than $40,000.

[9]The marginal cost of production refers to the cost of producing one additional unit. For example, for a corn farm of given size and production level, the marginal cost of production would be the incremental cost of producing an additional bushel of corn.

A lower payment maximum could cause these low-cost farmers to produce less in the long run. Low-cost farmers are more likely to be affected by a lower maximum payment because, as a group, they have a tendency to produce greater volumes. These farmers, if they continued to participate, in effect would receive a lower average payment per bushel than higher-cost farmers, because a larger proportion of their production would be ineligible for payments. Because their per-bushel payment would be higher (relative to low-cost farmers), high-cost, less-efficient farmers as a group might produce more than they would in a strictly least-cost pattern. This would tend to reduce efficiency.

In the long run, a lower payment maximum could reduce the incentive to produce subsidized (program) crops as farmers find opportunities to pursue other production activities. When payments are made only for some crops, more resources are generally devoted to producing the crops receiving payments than would have otherwise been the case. A lower maximum payment that reduced these payments and thus the incentive for producing program crops rather than nonprogram crops and livestock would tend to enhance efficiency. An estimated one-third or less of all U.S. farms produce crops for which deficiency payments are made under current programs. These farms could have more incentive to devote some of their resources to other products that would yield a higher return.

Another possible effect on efficiency is tied to large program-crop surpluses. To the extent that a lower payment limit discouraged production of unneeded agricultural commodities in the long run, efficiency would be enhanced.

Administrative Feasibility

Since lowering the maximum payment would not dramatically change the way existing commodity programs operate, the administrative feasibility of this option is about the same as for current programs. However, farmers who are affected by the payment limit would have a greater incentive to restructure their operations, such as subdividing farms to circumvent the lower payment limit. To the extent such restructuring occurred as farmers, through reorganizations, sought to qualify for the maximum payment, USDA's administrative workload would increase.

Budget

A lower maximum payment could result in lower budget outlays. The results we obtained using a version of USDA's FAPSIM model suggest that reducing the maximum payment limit could result in a decrease in total

deficiency payments and net CCC outlays.[10] This is because larger farms, more likely to be affected by a lower limit, might participate less in the program. Larger farms currently account for the bulk of program-crop production. Their failure to participate would reduce significantly the amount of production eligible for price-support loans, thereby lowering loan outlays. However, restructuring, as noted above, could mean a smaller reduction in outlays for both deficiency payments and loans than expected.

In addition, reducing the payment limit could lead to a short-run decline in market price as previously-participating farmers returned idled acres to production, thereby increasing supplies. This, in turn, could cause an increase in deficiency payments to those farmers still participating. This price decline could also lead to an increase in net loan outlays for those still participating if they elected to forfeit more of their crop. However, since larger farms account for more production, the net effect could be an overall decline in deficiency payments and loan outlays.

Apply Different Payment Rates According to a Measure of Farm Size

Under this option, target prices applied to each unit of program-crop production would differ among farms, depending on the size of the farm according to some established measure. The larger the farm, the lower the target price. For example, if the measure were "total farm sales," farms with sales of less than $100,000 might receive payments based on a higher target price for their program crops than farms with sales greater than $100,000.

Alternatively, different target prices could be set for different farm sizes as measured by total acreage or crop production volume, or by program-crop sales, acreage, or production volume. For our analysis, the measure of farm size was total farm sales. We used this measure because more data were available on this farm characteristic than others. How some other measure of farm size might affect policy goals (compared to total sales) depends on the relationship between the measure and total farm sales.[11]

[10]Net CCC outlays consist primarily of loans and payments to participating farmers and direct commodity purchases, less the amount of loans that are repaid.

[11]As discussed in chapter 3, FCRS provides some data showing the relationship among measures of farm size. For example, the data show that, in general, farms with larger acreages tend to have larger total sales, and farms with large program-crop production and sales tend to have larger total sales.

The specific price schedule could be established so that the largest farms, according to whatever measure is used, would not receive any income-support payments. We assumed that the highest target price (applicable to the farms in the smallest sales or size category) would be somewhat higher than the current target prices established by the Food Security Act of 1985 and that the lowest target price (applicable to the farms in the largest sales or size category) would be somewhat lower than current target prices.[12]

Variations of this option have been cited by USDA, the Congress' Office of Technology Assessment (OTA), and the Congressional Budget Office. For example, CBO measured farm size by the number of acres planted in program crops.

Impact on Agricultural Policy Goals

Our analysis suggests that applying different target prices to different sized farms, when compared with existing programs, could direct a greater share of income supports to low-income farms, reduce income support to higher-income farms, possibly make an overall loss of family farms less likely, lead to greater efficiency across agricultural crop and livestock production, and reduce agricultural surpluses in the long run. These effects, however, critically depend on the schedule of target prices chosen. In addition, this option would increase incentives for more high-cost, inefficient program-crop production, and it would decrease government control over the supply of program crops.

The extent to which applying higher-than-current target prices to smaller farms and lower-than-current target prices to larger farms potentially meets the identified goals of agricultural policy is discussed in the following sections.

Income Support

If farms with lower total farm sales receive higher-than-current target prices for their program crops, and farms with higher total farm sales receive lower-than-current target prices for their program crops, the result could be relatively more income support to low-income farms (as a group) and less support to high-income farms. This could occur because (as the FCRS data discussed in chapter 3 suggest) farms with lower overall sales and/or lower program-crop sales tend to have lower

[12]For the 1986 crop year, target prices for the major program crops were: $4.38 per bushel for wheat, $3.03 per bushel for corn, $0.81 per pound for cotton, and $11.90 per hundred pounds of rice. The act provides that target prices may decline beginning with the 1987 crops of rice and cotton and the 1988 crops of wheat and corn.

net cash farm incomes than farms with higher sales. However, farms that are exceptions to this general relationship—such as farms with lower total farm sales but large net cash farm incomes—as well as farms with substantial off-farm incomes, would also benefit.

Supply

This option could result in less government control over the supply of program crops than exists under current provisions. Larger farms would receive a lower per-unit payment, making participation less attractive for this group. Smaller farms would receive larger deficiency payments (because a higher target price would apply to their production) than under existing provisions, so their participation rates likely would rise. But because the larger farms' output is disproportionate to their numbers, overall participation (in terms of crop acreage), and therefore government control, could fall.

In the short run, larger farms' participation rates could fall, resulting in an increase in production of program crops as those farmers put some of their previously idled acres back into production. In the long run, these larger farms might diversify in search of higher returns, resulting in a decrease in overall supply of program crops. Because this option could reduce total payments for program-crop production, the supply of nonprogram crops and livestock could increase.

However, much depends on the actual schedule of target prices chosen. If target prices for larger farms were only modestly lower than current target prices, larger farms would be more likely to continue to participate than if target prices were substantially lower. Continued participation would increase the chance that the supply of program crops would not significantly differ from the supply generated by current provisions.

Family Farms

The loss of family farms, as we defined them, could be smaller under this option than under existing conditions, but this conclusion also depends on the schedule of target prices chosen. Larger farms, including larger family farms, generally would receive lower payments. However, smaller farms, including smaller family farms, would benefit from larger direct payments. Because there are more smaller family farms than larger family farms, this option could result in a net increase in benefits to family farms. Moreover, to the extent that, in the aggregate, financial condition worsens as farm size declines, fewer total farms—including family farms—might fail under this option, because the smaller farms would receive more direct payments.

Efficiency

Because of conflicting influences, this option's overall effect on efficiency is unclear. For example, this option could reduce efficiency in program-crop production for the same reasons that lowering the maximum payment limit would. Generally, low-cost farms would receive a lower payment on each bushel harvested than would high-cost farms; therefore, the high-cost farms would tend to produce more, reducing efficiency. However, this option could reduce the subsidy for producing program crops, as compared with nonprogram crops and livestock, and thus enhance efficiency. Farmers would have more incentive to invest resources in activities yielding the highest return. If this option reduced large surpluses of program crops in the long run, it could enhance efficiency further.

Administrative Feasibility

This option would likely be more difficult to administer than the existing program. According to ASCS officials responsible for administering the existing price- and income-support programs, basing payments on factors other than production would likely be more difficult to administer. USDA would have to obtain and monitor farm sales data (or other data pertaining to the measure of farm size used) to ensure that each farm received payments based on the correct target price(s) for its production. Subdividing farms could be a greater problem, because there would be wider differences in how farms of differing sizes were treated. Larger farms would have an incentive to subdivide into smaller farms eligible for higher target prices. Such reorganizations could increase USDA's administrative workload.

Budget

The budgetary impact of this option is uncertain. This option would effectively lower the per-unit payment (target price) made to larger farms that account for the majority of production; thus it could result in lower total deficiency payments than existing programs. This result depends critically on the specific schedule of payment rates adopted and the likely response of farmers to the different target prices. And, as with other targeting options, the budgetary effect depends on how "farm" and "farmer" are defined.

For example, farmers receiving payments based on the higher target price might have an incentive to produce more. Direct payments to them could be higher not only because of the higher target price but also because of their rising production. In contrast, farmers receiving the lower target price would have less incentive to participate. In the short run, their supply of crops could increase as they brought previously

diverted acres into production. This increase in supply could lower market prices and, if initial market prices exceeded regular price-support loan rates, increase the deficiency payment rates to those farmers still participating.

The expected increase in deficiency payments to those farmers receiving the higher target price would have to be weighed against the expected decrease in such payments to those farmers receiving lower target prices. Considering these conflicting effects of deficiency payments is necessary in setting the appropriate target prices for both groups of farmers.

Apply Target Prices That Decline as Farm Crop Production Increases

Under this option, called "inverse scaling" or "graduated deficiency payments," higher target prices would apply to the first units of production on each farm, with successively smaller prices for increasing levels of production. Each farm, no matter what its size, would receive the same declining subsidy per unit of output. USDA and Resources for the Future (RFF)[13] have cited this option.

Impact on Agricultural Policy Goals

The effects of an inverse scaling option, when compared with existing program provisions, are very similar to the effects of the previous option of applying different target prices to different sized farms. This is because both options would, under our assumption, (1) lower the average payment to larger farms and (2) increase the average payment made to smaller farms.[14]

Therefore, the extent to which inverse scaling meets the identified objectives of agricultural policy is also about the same as the previous option. Our analysis suggests that this option, compared with existing programs, could

- direct more income support to low-income farms,
- reduce income support to higher-income farms,
- increase the supply of nonprogram crops and livestock,
- make a loss of family farms less likely,

[13]RFF is a private research organization that deals with a variety of public policy issues, including agricultural policy.

[14]We assumed that the highest target price—applicable to the first increment of production on each farm—would be somewhat higher than the current target prices established by the Food Security Act of 1985, and that the lowest target price (applicable to the last increment of production) would be somewhat lower than current target prices.

- lead to greater efficiency across agricultural crop and livestock production,
- increase the likelihood of a smaller long-run surplus, and
- be no more difficult to administer.

This option would probably not

- provide better control over the supply of program crops,
- lead to a larger long-run supply of program crops,
- provide more incentives for more efficient program-crop production, or
- increase participation in farm programs.

The effect on the budget is uncertain. As with the previous option, much depends on the specific payment rate schedule chosen, in terms of how much difference exists between the payment rates established for each increment of production and how the overall schedule compares with the current target prices established by the Food Security Act of 1985.

Base Eligibility for Income Support on Means-Tested Financial Need

This option would use a financial means test—an assessment of financial condition—to determine eligibility for income support and to calculate how much each farmer would receive. One version— a "limited" means test—would simply scale deficiency payments according to financial condition and would apply to farmers of current program crops. Another version—a "comprehensive" means test—represents a more significant departure from existing programs because it would apply to all farmers, whether they produce specific program crops or other agricultural products, and because the amount of payments made would be independent of the farmer's crop production volume. For our analysis, we considered both a limited option (applicable to growers of current program crops) and a comprehensive option (applicable to all farmers).

Under either means-test option, payments would be made to maintain farmers' incomes at or above some minimum level of net income. (This option is sometimes called a negative income tax.) Minimum income could be scaled according to family size, location, and other factors, including the availability of other public assistance programs. Under the limited option, program-crop farmers with higher incomes would receive smaller, or no, deficiency payments and farmers with lower incomes

would receive larger payments. Means-tested programs have been cited by CBO and by private researchers.[15]

In concept, means-test options are related to the previously discussed alternatives (basing payments on farm size and inverse scaling) which would use other farm characteristics—such as a measure of farm size—as a surrogate measure of financial need. To the extent that measures of size and financial condition are positively correlated, the two alternatives are similar.

To be eligible for income-support payments under this policy, farmers would be subject to a financial means test. Financial "need" could be determined by examining certain indicators, or measures of need, such as net income, household income, and financial equity. For purposes of our analysis, we assumed that all sources of income would be considered in determining eligibility for income supports under these targeting options.

Impact on Agricultural Policy Goals

Our analysis suggests that a limited means-test program, in which (1) eligibility would be limited to growers of crops currently covered by target prices and deficiency payments and (2) payments would be scaled according to financial condition, would provide more income support to low-income farmers and less income support to higher-income farmers. It would do so more precisely than the previous options analyzed. This could result in more high-cost, inefficient program-crop production. At the same time, it could result in lower subsidies for program-crop production; this could mean a greater supply of nonprogram crops and livestock in the long run, and thus greater efficiency across crops and livestock. Because larger, program-crop farmers would receive less income support, their production of program crops could be smaller in the long run, which could reduce long-run surpluses.

Unlike the comprehensive means-test option, the limited version would be less likely to result in higher budget outlays, although this result depends critically on the income guarantee chosen. Because the means test would apply to a smaller population than the comprehensive option,

[15]See, for example, L. Calvin, W. Foster, and G. Rausser, "Review and Assessment of Alternative Agricultural Policy Proposals" in Alternative Agricultural and Food Policies and the 1985 Farm Bill, K. Farrell, and G. Rausser, eds. (Gianinni Foundation/Resources for the Future; Washington, D.C., 1985); and B. Gardner, "Structuring Incentives for Change in U.S. Farm Programs" in the American Journal of Agricultural Economics, May 1985.

it is more likely that a limited means test could be designed that, compared to the existing program, (1) would result in fewer family farms lost and (2) would not result in higher budget outlays.

Our analysis suggests that introducing a comprehensive means-tested income-support program for all farmers, compared with the existing program, would provide more support to low-income farmers, reduce support to higher-income farmers, and improve efficiency across crops and livestock. This option could increase incentives for relatively more high-cost, inefficient agricultural production and would not achieve better government supply control. It would be significantly more difficult to administer. Its effect on loss of family farms is problematic—much depends on the size of the income guarantee. With a large income guarantee, family farms might benefit (at the cost of larger budget outlays) than under the existing program.

The extent to which each financial means-test option, compared with the existing program, meets the identified goals of agricultural policy is discussed in the following sections.

Income Support

Each option is specifically designed to support the incomes of low-income producers, while withholding income-support payments from high-income producers. Therefore, each would provide more income support to low-income farmers and less support to financially well-off farmers than existing programs or any of the previously discussed alternatives. The limited means-test option would accomplish this among program-crop farmers; the comprehensive option, among all farmers.

Supply

Under either means-test option, government control over the supply of program crops likely would fall. Because these options would provide income support to farmers that is not tied directly to production levels, farmers would not have an incentive to produce more in order to receive higher total payments.

Under the limited means test, participation rates of the larger farms could fall in the short run, resulting in an increase in production of program crops as those farmers put some of their previously idled acres back into production. In the long run, these larger farms might diversify in search of higher returns, resulting in a decrease in overall supply of program crops. Because this option could reduce subsidies to program-

crop production, the supply of nonprogram crops and livestock could increase.

Under either means-test option, overall supply might be reduced in the long run. Whether this would increase the likelihood of a food shortage and/or sharply increased prices in the future is uncertain.

Family Farms

The loss of family farms, as we defined them, could be smaller under the limited means-test option than under existing programs. The effect of the comprehensive option on family farms is uncertain. Much depends on the level of income support provided. Higher levels of support—in the form of higher income guarantees— would increase the chances that fewer farms, including family farms, would be lost. However, higher income guarantees would make higher budget outlays more likely.

Efficiency

As with other targeting options, means-tested income supports could affect efficiency in conflicting ways. Generally, low-cost farms would be less likely to receive income-support payments than high-cost farms. This could result in more high-cost production than is consistent with a pattern of least-cost production.

The limited means-test option could reduce efficiency in program-crop production. Generally, low-cost farms would receive a lower payment on each bushel harvested than would high-cost farms; therefore, the high-cost farms would tend to produce more, reducing efficiency. However, this option could reduce the subsidy for producing program crops, as compared with nonprogram crops and livestock, and thus enhance efficiency.

Under a comprehensive means-test option, growers of traditional program crops would no longer be the only farmers receiving income-support payments; this would tend to reduce inefficiencies between program and nonprogram crops and livestock if some program-crop producers turned to other products. This option could also reduce large surpluses because income support would no longer be tied directly to production, which would tend to enhance efficiency. In the long run, farmers would not have an incentive to produce more solely to receive higher payments.

One major question unique to the comprehensive option is whether it would encourage a significant number of nonfarmers to become farmers

in order to qualify for this farm-specific benefit. In addition, such a means-tested income-support program could affect the work effort of low-income farm families. In experimental programs designed to maintain incomes in rural areas between 1970 and 1972, the Department of Health, Education, and Welfare (HEW; now the Department of Health and Human Services, or HHS) found that while farmers receiving income-maintenance payments decreased their work effort for wages, they worked more hours on the farms.[16] Due to the short time period (about 3 years) during which the experiments were conducted, the observed effects on work effort may be less than under a permanent program.

Administrative Feasibility

Either means-test option would be more difficult to administer than the existing income-support program. However, because it would apply to fewer farmers—only growers of traditional program crops—the limited means-test option represents less administrative workload than the comprehensive option. Generally, as "financial need" is defined more precisely, the administrative burden increases. In turn, this precision is tied to the content of the means test. For example, a test that did not adjust the amount of assistance according to family size, location, and other factors such as the farmer's debt-to-asset ratio or net worth, would be less difficult to administer than a means test that did account for all these factors. Added administrative costs would have to be weighed against equity gains from improvements in defining financial need.

USDA has not used means-tested programs specifically for supporting farmers' incomes. However, the federal government has ample experience using means tests in other programs. For instance, we recently reported eligibility factors for 54 large needs-based federal benefit programs.[17] These programs suggest that it is feasible to administer a means-tested farm income-support program. However, the administrative costs could rise significantly.

The HEW rural income-maintenance experiment showed that program administration could be difficult because self-employed farmers have more irregular incomes than do wage earners. In those experiments, participating farmers under-reported their assets by about 14 percent to 27

[16]To mitigate a possible work disincentive, eligibility for a means-tested agricultural income-support program could depend on work and/or retraining requirements. In the HEW experiments, an income guarantee was accompanied by a tax rate at which benefits were reduced as other income increased.

[17]Needs-Based Programs, Eligibility and Benefit Factors (HRD-86-107FS, July 1986). Over half of these programs account for measures of net income, wealth, location and household composition in determining eligibility or benefits.

percent and under-reported their farm income by about 39 percent. Several other issues identified in these experiments also have an important bearing on the administrative design of a means-tested income-support program. Among the more important are:

- Accounting for farm income and expenses. Under one conventional accounting method, called cash accounting, income is counted when it is received, and expenses are counted only when they are actually paid. Another method, the accrual accounting method, accounts for sales and purchases when they occur, regardless of when payment is actually made or received. The cash method is easier to use; however, it is also more conducive to circumventing program objectives. For example, a farmer could delay selling crops to maximize the amount of income-maintenance payments received. Thus, there is a trade-off between the cash method's ease of use—and potentially less administrative expense—and the more accurate definition of financial need under the accrual method.
- Accounting for capital gains/losses. Farmers generally do not recognize capital gains—an increase in the value of assets such as farmland or crop inventories—as income unless the assets are sold. Thus, under a means-test option, farmers could receive income-support payments even as their farm assets became more valuable. Recognition of these gains (or losses) could provide a more accurate measure of financial need. Its feasibility depends in part on the difficulty of realizing these gains and losses.
- The income period (the time period over which a farmer's income would be counted for purposes of calculating income-maintenance payments). Defining this period is important because farm income is seasonal. For example, a farmer may receive a large amount of income from sales made during a period of a few months after harvest. Given this situation, if the income-maintenance program used, for example, a 1-month period, farmers could qualify for maximum benefits during nonsales months. The HEW experiment used a 1-month period; however, a 12-month income ceiling (above which farmers were not eligible for income-maintenance payments) was also applied, regardless of the month in which the income was earned.
- Availability of other forms of assistance. An important consideration is the availability of other forms of public assistance. In the HEW experiments, participating families were eligible to receive unemployment compensation benefits and food stamps. In some states, farmers may be eligible for the Aid to Families with Dependent Children (AFDC) Program. Other forms of assistance could be considered in determining the level of need and/or benefits under a means-tested income-support program;

alternatively, such a program could replace other forms of assistance for eligible participants.

Budget

Major variables affecting the cost of a means-tested income-support program include (1) the number of persons eligible to receive payments and (2) the specific payment schedule adopted. In turn, eligibility would depend on how "farmer" is defined and the measures of financial condition used to determine financial need.

The budgetary effects of either means-test option are uncertain. The limited means test would likely cost less than a comprehensive version because fewer farmers would be eligible. The limited version could result in less total payments than current programs, because it would effectively lower payments made to larger farms that account for the majority of production. This result, however, depends on the specific payment rates adopted and the response of farmers to the different rates.

Other factors could affect the cost of the comprehensive means-test option. In the long run, a major question is whether such a program would (1) encourage a significant number of farmers, who otherwise may have left farming, to continue and (2) induce nonfarmers to become farmers in order to qualify for this farm-specific benefit.

Also uncertain is the effect that such an option would have on the supply of program or other crops. FCRS data show that larger farms tend to have higher net cash farm incomes. Such farms would likely experience reduced income-support payments under this option. As a result, the acreage previously diverted for program participation purposes might be returned to program-crop production. This could increase supplies of these crops and thus decrease their market prices in the short run. If market prices fell, farmers would probably not repay as much of their price-support loans, resulting in a possible rise in net loan outlays.

Further, an increase in administrative costs is likely. Analysis of the administrative costs of the means-tested Food Stamp Program, also administered by USDA, suggests that administering such a program for agricultural income support would be more expensive than administering the existing income-support program. For fiscal year 1987,

administrative expenses of the Food Stamp Programs may exceed $2 billion, about 20 cents for each $1 of benefits distributed.[18] In contrast, estimated CCC net operating expenses for existing programs of about $519 million equal about 2 cents per dollar of net CCC outlays.[19]

[18]For fiscal year 1987, the Office of Management and Budget (OMB) estimates that nearly 20 million people will receive food stamps valued at $10.6 billion.

[19]Total net CCC expenditures less operating expenses are estimated at about $24.8 billion for fiscal year 1987.

Farm Characteristics Have Important Implications for Designing Targeted Income-Support Programs

As discussed in chapter 2, the effects of targeting income supports depend largely on specific program design. An important aspect of program design—affecting program scope, cost, and impact—is determining the target population. Programs that would target farm income supports depend upon farm characteristics to define the target population; for example, the most important characteristics for means-tested income support are measures of financial condition that would help define a farm in "financial need."

This chapter presents information on farm characteristics that are important to the targeting options discussed in this report. In addition to measures of financial condition, these characteristics include measures of farm size, sources of income, and operating and ownership characteristics that help distinguish family farms.

Under Current Program, Payments Are Based on Program-Crop Production Volume

ASCS records show that about 920,000 farms received deficiency payments for the crop year 1985 production of wheat, feed grains, cotton, and rice. Collectively, these farms received about $5.3 billion in deficiency payments and about $945 million in diversion payments.[1]

Under the current income-support program, the most important distinguishing characteristic of participating farms is that they produce a program commodity—wheat, feed grains, rice, and/or cotton. With certain exceptions, a farm's income-support payments increase along with its production volume of these commodities. Other farm characteristics, such as financial condition, size, or organizational arrangement, are not important for determining each farm's eligibility for income supports or, with the exception of applying payment limitations, the amount of income-support payments each receives. Thus, most 1985 payments were made to participating farms that produced the largest quantities of program crops, regardless of their financial condition, incomes, or costs.

How Payments Are Calculated

For a participating farm, ASCS establishes an acreage "base" for each program crop the farm produces, based on the historical number of acres the farm has planted to the crop. The crop acreage base, less any diverted acres, is the number of acres of the crop the farmer is permitted to plant. ASCS also estimates, for each crop year, the farm's

[1]FCRS data show that an estimated 384,000 farms both idled cropland for government programs and received direct government payments (including deficiency and diversion payments) totaling about $4.6 billion for 1985. The differences in these data sources are detailed in appendix II.

yield—the number of bushels or pounds of the crops expected to be harvested. If all permitted acres are planted, the farm's total estimated production of each program crop is then calculated by multiplying the number of planted acres for the crop times the estimated yield per acre.[2]

ASCS calculates a farm's total deficiency payment by multiplying the estimated production of each program crop (as calculated above) times the established deficiency payment rate. For example, the deficiency payment rate for 1985 crop year wheat was $1.08 per bushel. A farm with estimated production of 10,000 bushels would have received a $10,800 deficiency payment, while a farm with estimated production of 20,000 bushels would have received a deficiency payment of $21,600.

Under these provisions, the payments are calculated without regard to the farm's financial condition or "need" for payments, or its costs of producing the commodities. If the larger-production farm has more base acres, it would of course have to idle a larger number of acres than the smaller-production farm (if an acreage reduction requirement is in effect) in order to be eligible for program benefits.

1985 Payments Illustrate Relationship to Program-Crop Production Volume

Because of the way payment amounts are determined, the distribution of deficiency payments for the 1985 crop year closely corresponded to the distribution of program-crop production among payment recipients. For example, farms that produced between 1,000 and 2,499 bushels of wheat accounted for about 11.7 percent of the wheat produced by participating wheat farms and for about 11.9 percent of the wheat deficiency payments. The relationship between the amounts received and production volume was similar for other categories of wheat farms and for farms producing other program crops. (Detailed information on the distribution of payments by program-crop production volume appears in table I.1, app. I.)

In addition, recent studies by ERS have shown that the share of government payments made to farms in 1985 was directly related to the share of program crops that these farms produced. This relationship was true regardless of farm sales levels or other characteristics.

[2]Under the Food Security Act of 1985, farmers can elect to plant program crops on as few as 50 percent of permitted acres and devote the rest to conserving uses or nonprogram crops. These farmers can still receive up to 92 percent of the deficiency payment they would have received if all permitted acres were planted.

Farm Financial Characteristics Are Important to Targeting Options

Under existing programs deficiency payments are calculated without regard to the farm's financial condition or "need" for payments. Therefore, payments are made to farms that may be experiencing financial stress as well as to those that are, according to some measures, financially well off. For example, an estimated $1.2 billion in 1985 payments were made to farms with negative net cash farm incomes (losses) averaging $41,000. On the other hand, about $1.8 billion in 1985 payments went to farms with average net cash farm incomes of $51,000 or more excluding government payments.

In contrast, some targeting options would focus payments only on the financially needy, using farm financial characteristics to direct a greater share of income supports to farms in greatest financial need.

Measures of Financial Condition

Several measures, or indicators, are used to evaluate farm financial condition. These measures include (1) the debt-to-asset ratio (the proportion of farm debts to farm asset value), (2) farm equity (the value of assets less the value of debts), (3) farm income (income generated through the farm operation), and (4) nonfarm income (earned by farmers or farm families from off-farm sources). Farm assets typically include items such as land, buildings, and farm equipment.

Both debt-to-asset ratio and income are important when assessing farm financial condition. ERS defines the most financially stressed farms as those having both large debt-to-asset ratios and negative net cash incomes (losses). In contrast, financially better-off farms can be defined as those with smaller debt-to-asset ratios and larger net cash incomes. However, there are exceptions: some farms are able to generate enough income to bear large debt loads, and some farms with low or negative income and low debt loads may be able to borrow against their existing assets to meet expenses. Farms with low debt-to-asset ratios may also have low net cash incomes, or losses.

Farmers' incomes may be measured in different ways. Net farm income generally represents income earned through the farm business operation. For example, ERS defines net cash farm business income as sales revenue (from crops and livestock produced by the farm) plus other farm income (including income-support payments and net loans from the government), less cash operating expenses. Off-farm or nonfarm income is income earned by farmers or farm families from nonfarm

sources. A farm family's total net cash household income would include cash income from both farm and any nonfarm sources.[3]

Another indicator of farm financial condition is the amount of equity—the value of the farm assets less the amount of outstanding debt. Generally, a high level of farm equity would mean that a farm has a low amount of debt compared to assets; however, there are exceptions.[4] Furthermore, farms with large equity values may still be subject to financial stress: farms with large equity levels do not necessarily have large incomes. Therefore, it is important to consider other financial indicators with farm equity.

1985 Payments Were Not Based on Farm Financial Condition

FCRS data indicate that payments made to 1985 participating farms were not directly related to farm financial condition; rather, as outlined above, they were directly related to program-crop production. In the aggregate, farms in poorer financial condition, in terms of high debt-to-asset ratios and/or low net cash farm incomes,[5] received a greater share of payments than those with lower debt-to-asset ratios and higher net cash farm incomes. However, because of the way the program was designed, a farm in poorer financial condition did not necessarily receive a higher payment than a farm in better financial condition.

Debt-To-Asset Ratio and Income

As shown in table 3.1, the average government payment was highest for those commercial farms[6] earning the highest net cash farm income ($150,000 or more) regardless of the farms' debt-to-asset ratios. Generally, farms with higher positive net cash farm incomes received higher average payments than farms with lower positive net cash farm incomes, regardless of their debt-to-asset ratios. In addition, the table shows that farms with debt-to-asset ratios of 41 to 70 percent generally

[3]The different measures of farmers' incomes, and the concepts upon which they are based, are important for public policy purposes; it is necessary to determine, for example, whether the incomes of farm businesses or farm families (to the extent that there is a difference) are to be supported.

[4]High farm equity values can also result if both assets and debt levels are large. For example, a farm with assets valued at $105,000 and debts of $5,000 would show $100,000 in farm equity; but so would a farm with assets valued at $700,000 and debts of $600,000. For the latter farm, the debt-to-asset ratio would be a better indicator of financial condition.

[5]Net cash farm business income, as defined by ERS, includes government payments but does not include income from off-farm sources. We recently reported that nonfarm income plays an increasingly important role for farms with low net farm income (Tax Policy: Economic Effects of Selected Current Tax Provisions on Agriculture, GAO/GGD-86-126BR, August 11, 1986).

[6]ERS defines commercial farms as those having annual sales of $40,000 or more.

received the highest average payment; however, the differences in average payments were not large.

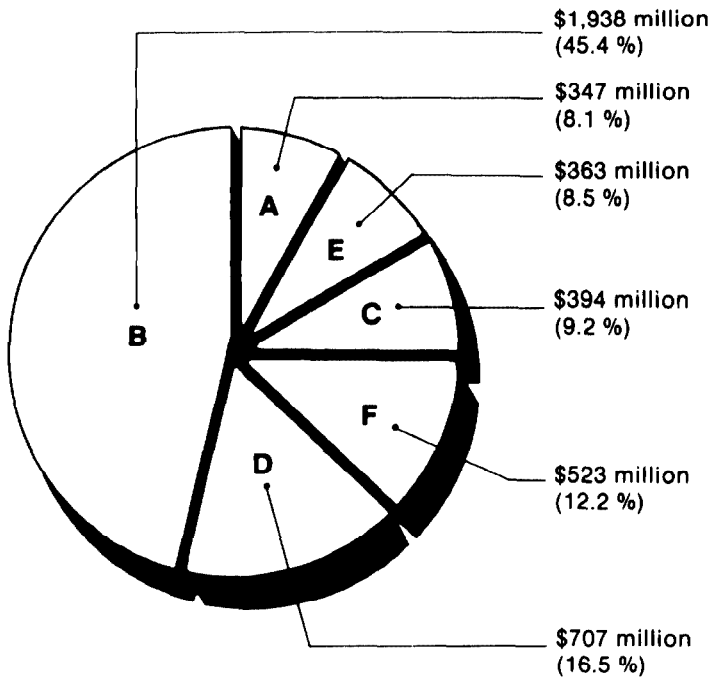
Figure 3.1 shows that about 8.1 percent of the 1985 payments were made to farms that had negative net cash farm incomes and were in the highest debt-to-asset position, those farms characterized by ERS as most financially stressed. In the aggregate, about 25.8 percent of the payments were received by farms with negative net cash farm incomes. However, about 45.4 percent of the payments were made to farms that, by these measures, were financially better off—farms with positive net cash farm incomes and debt-to-asset ratios of 40 percent or less.

Table 3.1: Distribution of Payments to Participating Commercial Farms by Debt-To-Asset Ratio and Net Cash Farm Income

Net cash farm income (000 omitted)	Percent of farms[a]	Payments received (000 omitted)	Average payment
Farms with Debt/Asset Ratios of 40 Percent and Less			
$150 and more	2.4	$363,339	$51,906
$100 to $149	3.1	221,869	24,652
$50 to $99	11.1	541,518	16,922
$20 to $49	18.5	543,151	10,248
$0 to $19	11.8	268,691	7,903
-$1 to -$5	2.4	52,094	7,442
-$6 to -$20	3.5	102,166	10,217
More than -$20	4.2	239,978	19,998
All farms, d/a equals 0 to 40 percent	**57.1**	**$2,332,806**	**$14,224**
Farms with Debt/Asset Ratios of 41 to 70 Percent			
$150 and more	1.0	$153,398	$51,133
$100 to $149	.7	50,120	25,060
$50 to $99	2.8	173,481	21,685
$20 to $49	5.9	196,009	11,530
$0 to $19	4.2	133,916	11,160
-$1 to -$5	2.1	58,140	9,690
-$6 to -$20	2.1	64,522	10,754
More than -$20	4.1	240,752	20,003
All farms, d/a equals 41 to 70 percent	**23.0**	**$1,070,338**	**$16,217**
Farms with Debt/Asset Ratios Greater than 70 Percent			
$150 and more	1.0	$138,568	$46,189
$100 to $149	1.0	45,156	15,052
$50 to $99	2.1	101,057	16,843
$20 to $49	2.8	100,046	12,506
$0 to $19	3.8	138,617	12,602
-$1 to -$5	1.0	37,284	12,428
-$6 to -$20	2.8	72,295	9,037
More than -$20	5.2	237,874	15,058
All farms, d/a equals 71 percent or more	**19.9**	**$870,897**	**$15,279**

[a]Percentages may not add due to rounding.
Source: GAO calculation of FCRS data.

Figure 3.1: Distribution of 1985 Payments to Participating Commercial Farms by Net Cash Farm Income and Debt-To-Asset Ratio Class



Total Payments: $4.2 billion

- **A** Farms with negative net farm income and d/a ratio greater than .7
- **B** Farms with positive net farm income and d/a ratio less than .4
- **C** Farms with negative net farm income and d/a ratio less than .4
- **D** Farms with positive net farm income and d/a ratio between .4 and .7
- **E** Farms with negative net farm income and d/a ratio between .4 and .7
- **F** Farms with positive net farm income and d/a ratio greater than .7

Source: ERS

FCRS data show that government payments contributed a smaller portion of income to higher-income farms than to lower-income farms, whether the income measure is gross farm income or net cash farm income. For example, farms with less than $10,000 of gross farm income received an average of about $965, or about 15.9 percent of their gross farm income, from government payments. For farms with gross farm income of $500,000 or more, the average government payment was $58,269, or about 6.2 percent of gross farm income.

As the data in table 3.2 show, for those participating farms with net cash farm incomes of $20,000 or more (about 40 percent of all participating farms), government payments represented from 19 to 32 percent of their net cash farm incomes. For farms with net cash farm incomes ranging from $0 to $19,999, government payments averaged $6,791, representing almost 76 percent of net cash farm income.

Table 3.2: Average Payments and Average Net Cash Farm Income to Participating Farms by Net Cash Farm Income Class

Net cash farm income (000 omitted)	Percent of farms	Average payment received	Average net cash farm income	Average net cash farm income without payment
$150 and more	3.4	$50,409	$262,616	$212,207
$100 to $149	3.6	22,653	119,827	97,174
$50 to $99	12.2	17,415	68,401	50,986
$20 to $49	21.0	10,579	33,401	22,821
$0 to $19	27.0	6,791	8,961	2,170
-$1 to -$5	9.1	6,073	−2,296	−8,369
-$6 to -$20	11.7	6,282	−11,163	−17,445
More than -$20	12.0	16,295	−74,436	−90,730

Source: GAO calculation of FCRS data.

Farm Equity

FCRS data also provide some insight into the relationship between farm equity levels and the amount of government payments received in 1985. Generally, as shown in table 3.3, farms with higher equity tended to receive higher average payments than farms with lower equity levels. This was true for farms in all net cash farm income categories for which sufficient data were available. Farms with lower equity levels and lower net cash farm income levels tended to receive lower average payments.

Table 3.3: Average Payments to Participating Commercial Farms by Net Cash Farm Income and Equity Class

	Farm equity (000 omitted)						
Net cash farm income (000 omitted)	**$1,000 and more**	**$750-999**	**$500-749**	**$250-499**	**$100-249**	**$ 0-99**	**Less than $0**
$150 and more	$66,818	$73,406	$34,858	$32,051	$a	$a	$a
$100 to $149	29,092	40,480	19,062	20,042	a	a	a
$50 to $99	24,608	15,356	19,684	15,443	19,999	a	a
$20 to $49	26,233	a	12,300	13,517	8,875	7,442	a
$0 to $19	a	a	11,458	12,189	6,676	7,627	11,453
-$1 to -$5	a	a	a	a	11,909	a	a
-$6 to -$20	a	a	a	a	8,532	10,019	a
All farms	**$42,800**	**$24,715**	**$16,639**	**$14,821**	**$11,923**	**$9,589**	**$15,013**
Total Less Than $20	43,421	23,771	13,488	13,678	9,028	a	a
Total Less Than -$20	33,989	33,733	25,343	18,399	13,477	11,989	15,863

[a]Insufficient data for reliable estimate.
Source: GAO calculation of FCRS data.

Other Farm Characteristics Are Important to Targeting Options

Programs that would target farm income supports depend upon farm characteristics to define the target population. In addition to measures of financial condition, characteristics important to designing programs under some targeting proposals include measures of farm size, sources of income, and operating and ownership characteristics that help distinguish family farms. For example, a program that would target payments to farms with lower crop production levels would depend upon developing a measure of crop production.

The recipients of 1985 income-support payments exhibited not only a wide range of financial conditions, but also differences in other characteristics that are important to some targeting proposals. Like their nonparticipating counterparts, these farms were differentiated by the type of products they produced, farm size, ownership and operating arrangements, and their dependence on farm and nonfarm income. Considering the diversity revealed by these characteristics, it is difficult to define a "typical" farm that received income-support payments.

Production of Nonprogram Commodities

To participate in the existing price- and income-support programs, a farm must grow a program commodity, whether or not that commodity is the farm's principal product. FCRS uses farms' principal products, such as cash grains, vegetables, fruits and nuts, dairy products, or poultry, to define types of farms. (Cash grains include, among other crops, the

major program crops of wheat, feed grains, and rice.) A farm could participate in the major crop price- and income-support programs and receive income-support payments, even though categorized as a dairy farm, if it also produced a program crop such as corn.

As table 3.4 shows, several different farm types were represented among participating farms for 1985. As might be expected, the greatest number of participating farms—about 61 percent—were classified as cash grain farms. A number of participating farms were classified in livestock, dairy, or other farm-type categories (the categories are mutually exclusive) because, in addition to their primary product, the farms also produced one or more program crops.

Table 3.4: Distribution of Farms by Principal Products

Figures in percent

Principal product	Participating farms	Nonparticipating farms	Total farms
Cash grain	60.9	14.2	25.5
Tobacco, cotton	4.4	6.5	6.0
Veg., fruit, nut	0.8	5.5	4.3
Other crops	2.9	5.5	4.8
Beef, hogs, sheep	21.1	44.8	39.0
Dairy	8.6	12.2	11.3
Other livestock	0.8	6.6	5.1
Other[a]	0.5	4.7	3.7
Total	**100.0**	**100.0**	**100.0**

[a]Other types include nursery, greenhouse, and poultry farms.
Source: GAO calculation of FCRS data.

Table 3.4 shows that about 65 percent of the participating farms fall into the cash grain or tobacco/cotton categories. This suggests that for about 35 percent of the participating farms, the primary product was not a program crop, but rather other agricultural products.

This characteristic has important implications for targeting proposals. The current commodity programs are directed at producers of specific program commodities, regardless of any income from production of non-program commodities. A program (not incorporating a financial means test) that focused only on crops covered by existing programs could result in continued payments to farms not experiencing financial need. This is because, as the table suggests, some of the producers may realize substantial income from agricultural production not covered by existing

programs. Another implication is that under a means-tested income-support program, producers with such income who currently receive deficiency payments for their program crops would not necessarily continue to receive payments.

Farm Size

Some targeting proposals incorporate measures of farm size to help define target populations. The underlying assumption in these proposals appears to be that larger farms are in general financially better off than smaller farms. The following sections include information on farm size measures and, to the extent permitted by available data, the relationship between these measures of size and indicators of farm financial condition.

Farm Sales

A common measure of farm size is the value of total farm sales per year. ERS characterizes farms having annual gross sales of less than $40,000 as "noncommercial." Such farms tend to rely on off-farm income to supplement farm earnings. ERS considers farms with sales of $40,000 or more to be "commercial" farms.

As shown in table 3.5, about 75 percent of the participating farms had 1985 sales of $40,000 or more, compared with about 29 percent of the nonparticipating farms. As shown in table I.4 (see app. I), commercial farms were more likely to be participating farms than their noncommercial counterparts.

Table 3.5: Distribution of Farms by Total Farm Sales Level

Figures in percent

Sales class	Participating farms	Nonparticipating farms	Total
$500,000 and over	3.4	1.6	2.1
$250,000 to $499,999	9.9	3.5	5.1
$100,000 to 249,999	29.9	9.5	14.5
$40,000 to 99,999	31.3	14.2	18.4
$30,000 to 39,999	7.8	4.8	5.5
$20,000 to 29,999	5.7	6.7	6.5
$10,000 to 19,999	7.0	12.3	11.0
$5,000 to 9,999	3.1	13.6	11.0
$2,500 to 4,999	1.6	12.9	10.1
$0 to 2,499	0.3	21.1	15.9
All farms[a]	**100.0**	**100.0**	**100.0**

[a]Totals may not add due to rounding.
Source: GAO calculation of FCRS data.

Total farm sales can include sales of nonprogram crops as well as commodities currently covered by price- and income-support programs. Targeting proposals based on either farm financial condition or farm size could apply to all farmers, or could be crop-specific like current programs.

Unfortunately, FCRS and other available data do not reveal the distribution of farms by sales of specific program crops. However, FCRS does provide specific information on sales of "cash grains, soybeans, other beans, and rice" (a category that includes the program crops of wheat, corn, grain sorghum, barley, oats, and rice)[7] and "cotton and cottonseed."

Table 3.6 suggests that participating farms tended to have larger sales of cash grains, soybeans, other beans, and rice than their nonparticipating counterparts. About 40 percent of participating farms with sales of these crops had such sales of $40,000 or more, while only about 16 percent of the nonparticipating farms with sales of these crops had such sales of $40,000 or more. In addition, at least 26 percent of participating

[7]The term "cash grain" includes rice. FCRS uses the term "cash grains, soybeans, other beans, and rice" to help ensure that survey respondents provide data for all cash grains.

farms with cotton and cottonseed sales had sales of those crops of $40,000 or more.[8]

Table 3.6: Distribution of Farms by Sales of Cash Grains, Soybeans, Other Beans, and Rice

Figures in percent

Sales class	Participating farms	Nonparticipating farms	Total farms
$250,000 and over	2.4	1.0	1.8
$100,000 to $249,999	11.9	4.2	8.3
$40,000 to 99,999	25.7	11.1	18.9
$30,000 to 39,999	8.7	5.2	7.1
$20,000 to 29,999	12.5	7.6	10.3
$10,000 to 19,999	16.7	14.2	15.6
$5,000 to 9,999	9.9	16.7	13.0
$2,500 to 4,999	6.0	16.0	10.6
$1,000 to 2,499	4.2	14.9	9.1
$0 to 999	2.1	9.0	5.3
All farms[a]	**100.0**	**100.0**	**100.0**

[a]Totals may not add due to rounding.

Source: GAO calculation of FCRS data.

As with total farm sales, FCRS data also show that farms with sales of cash grains, soybeans, other beans, and rice were more likely to participate the higher their sales of these crops. For example, as shown in Table I.2 (see app. I), while almost 41 percent of all farms in the $5,000-$9,999 sales category were participating farms, almost 77 percent of the farms in the $100,000-$249,999 sales category were participating farms. Further, about 79 percent of all farms with sales of cotton and cottonseed were participating farms. (Table I.2 in app. I provides additional details on the percentage of farms in each crop sales category that were participating farms.)

Relationship Between Sales and Farm Financial Condition

As noted earlier, some targeting proposals would scale income-support payments based on farm sales measures. While important exceptions exist, FCRS data generally show a positive relationship between 1985 total farm sales and program-crop sales; that is, farms with large sales of program crops tended to have large total farm sales and vice versa. (By definition, a farm's total sales could not be lower than its program-crop sales.)

[8]FCRS data do not permit reliable estimates of the number of participating and nonparticipating farms in each class of cotton and cottonseed sales.

FCRS data show that generally for 1985, farms with higher program-crop sales and/or total sales tended to have higher net cash farm incomes and vice versa. However, there were notable exceptions: a number of farms with large program-crop sales and/or large total farm sales showed negative net cash farm incomes for 1985. Although the percentage of farms with negative incomes did not differ greatly among sales classes, the data suggest that, for those farms experiencing negative net cash farm incomes (losses), the losses tended to increase with sales level. (Tables I.3 and I.4 in app. I provide additional details on the relationship between program-crop sales, total farm sales, and net cash farm income.)

These data have important implications for designing targeted income-support programs. The data suggest that targeting programs using a measure of total farm sales or program-crop sales as a characteristic for defining the target population could tend to direct a greater share of income support to farms with lower net cash farm incomes. However, because of exceptions, such programs could (1) continue to make payments to farms with large incomes and/or (2) exclude payments to farms with large sales that experienced low or negative incomes.

Acres Operated

Proposals for targeting income-support payments based on a measure of farm size include acreage measures. One such measure is the total number of acres in the farm operation, or "total acres operated." As shown in table 3.7, almost half (about 48 percent) of the 1985 participating farms operated between 101 and 500 acres. Further, the table shows that a greater percentage of participating farms were in the larger acreage categories when compared with their nonparticipating counterparts.

Table 3.7: Distribution of Farms by Total Acres Operated

Figures in percent

Acres operated	Participating farms	Nonparticipating farms	Total farms
2,001 and more	7.0	3.6	4.4
1,001 to 2,000	14.8	3.3	6.2
501 to 1,000	25.7	7.0	11.6
251 to 500	27.8	14.3	17.7
101 to 250	19.7	26.5	24.8
0 to 100	4.9	45.3	35.3
All farms[a]	100.0	100.0	100.0

[a]Totals may not add due to rounding.
Source: GAO calculation of FCRS data.

FCRS data (as shown in table I.5 in app. I) also suggest that the very largest farms (operating 2,001 acres or more) were less likely to participate in government programs, as were the smaller (operating 500 or fewer acres). In contrast, more than half of all farms operating between 501 and 2,000 acres participated in government programs.

Because farm income supports could be based on a measure of farm acreage, it is important to look at the relationship between acreage and farm financial condition. While important exceptions exist, FCRS data generally show that among participating farms in 1985, net cash farm income increased as the total number of acres operated increased. However, there are significant exceptions; for example, over 24 percent of the farms operating more than 500 acres had negative net farm incomes. (Table I.6 in app. I provides details on the relationship between net cash farm income and total acres operated.)

Thus, targeting programs using a measure of farm acreage as a characteristic for defining the target population could direct a greater share of income support to lower-income farms. However, because of the exceptions just noted, such programs could also (1) continue income supports to farms with small acreages but larger incomes and/or (2) exclude payments from larger-acreage farms that experienced low or negative incomes.

Program-Crop Acres

Just as total farm sales may include sales of nonprogram agricultural products, total acres may include land devoted to uses other than producing program crops. To account for this, participating farms can be categorized in terms of the number of acres planted in each program

crop. This characteristic is one indicator of the relative size of farms producing these crops.

ASCS data show that, for each of the major crops—wheat, corn, rice, and cotton—the most common size in terms of planted acreage (that is, the size category with the greatest number of the crop's planted acres) was between 100 and 249.9 acres. Cumulatively, about 52 percent of the wheat acres were on farms that planted less than 250 acres of wheat; for corn, the figure was about 72 percent; cotton, 65 percent; and rice, 54 percent. (Table I.7 in app.I provides details on number of acres planted in program crops and payments received by participating farms.)

Program-Crop Production

As discussed previously, current price- and income-support programs make payments generally in direct proportion to the production volume of program crops. Some targeting proposals, though still using crop-production volume as the basis for determining payments, would calculate the payments differently. For example, under one option farms would receive a per-unit deficiency payment that declined as production volume increased. Therefore, it is important to look at the relationship between program-crop production volume and farm financial condition.

Available FCRS data show that, generally, among participating farms net cash farm income increased as program-crop production increased, especially when total program-crop production reached 1,300 tons and above. However, there were notable exceptions; about 19 percent of the participating farms in this production category had negative net cash farm incomes. (Table I.8 in app. I provides details on the relationship between net cash farm income and program-crop production.)

These data suggest that targeting proposals that incorporate a measure of program-crop production as a characteristic for defining the target population could tend to direct a greater share of income support to lower-income farms. However, as with other characteristics, such programs could (1) continue income supports to farms with large incomes and/or (2) exclude payments to large-production farms that experienced low or negative net incomes.

Ownership, Organizational, and Operating Characteristics

In addition to farm type and size, farms may be differentiated by their ownership, organizational, and operating arrangements. These characteristics are important to targeting proposals in that they may be used to help identify or define "family farms." As discussed in chapter 2, supporting family farms has traditionally been an agricultural policy goal.

Farm businesses may be owned by individual proprietorships (comprised of a single individual, a farm family, or other combinations of individuals), partnerships, cooperatives, corporations, or combinations of these organizations. Further, regardless of organization, farm owners may operate the farm themselves, or hire managers and/or labor.

FCRS data show that most participating farm businesses (about 85 percent) are individually owned; farm corporations comprise only about 4 percent of participating farms and about 3 percent of nonparticipating farms. (Table I.9 in app. I provides additional details on farm organizational arrangements.)

FCRS data show that the large majority (about 85 percent) of participating farm operators consider farming their primary occupation. (This does not mean that such operators do not have other occupations, but that the operators are engaged primarily in farming.) However, only about 56 percent of nonparticipating farm operators considered farming as their primary occupation. (Table 1.10 in app. I provides additional details about farm operators' primary occupations.) Farms can also be differentiated according to whether the land is owned, rented, or a combination of both. Rented farms include sharecropping arrangements, under which landowners rent their land to others for farming and share in the crop proceeds. FCRS data show that only about 21 percent of the participating farms operated owned land exclusively, or less than half the percentage (53 percent) of nonparticipating farms that operated owned land only. About 16 percent of the participating farms operated rented land only; another estimated 63 percent operated both rented and owned land. (Table I.11 in app. I provides additional details on this farm characteristic.)

Importance of Nonfarm Income

As noted previously, some farm businesses have income from nonfarm sources; this could be expected, for example, when a farm operator does not indicate farming as his/her primary occupation. The data in table 3.8 suggest that participating farms tend to earn less nonfarm income

than their nonparticipating counterparts. About 12 percent of participating farms receiving program payments earned $30,000 or more in nonfarm income, but almost 22 percent of nonparticipating farms reached and/or exceeded this level of nonfarm income during 1985.

Table 3.8: Distribution of Farms by Nonfarm Income Class

Figures in percent

Nonfarm income	Participating farms	Nonparticipating farms	Total farms
$50,000 and more	4.9	10.7	9.2
$40,000 to $49,999	1.3	1.7	1.6
$30,000 to 39,999	5.7	9.4	8.5
$20,000 to 29,999	9.6	15.6	14.1
$10,000 to 19,999	17.1	20.3	19.5
$0 to 9,999	61.3	42.4	47.0
Total farms[a]	**100.0**	**100.0**	**100.0**

[a]Totals may not add due to rounding.

Source: GAO calculation of FCRS data.

Additional FCRS data also suggest the importance of nonfarm income to both participating and nonparticipating farms. For example, when nonfarm income was excluded from the calculation of net cash farm income, about one-third of the participating farms showed net cash farm incomes of less than $0 (losses) for 1985. When nonfarm income was included in the calculation, the percentage of participating farms with negative net cash farm incomes declined to about 18 percent. (Table I.12 in app. I provides additional details on nonfarm income.)

Nonfarm income is important to targeting proposals. For example, under a needs-based income-support program, farmers that receive a significant amount of nonfarm income might not receive government payments even if their income from farming is small. As noted previously, many small farms receive a substantial portion of their incomes from nonfarm sources.

Conclusions and Matters for Consideration by the Congress

Conclusions

Existing farm income-support programs are not designed to provide most assistance to farms or farmers in greatest financial need. The targeting options discussed in this report would, with varying precision, tend to provide a greater share of income support to such farms. However, our analysis suggests that, at a minimum, these options would, if implemented, also have positive and/or negative effects on other agricultural policy objectives. For example, depending on which option, if any, is adopted, USDA could better assist family farms or provide fewer incentives for farmers to produce burdensome surpluses.

Major advantages of current programs are their demonstrated administrative feasibility, crop production-control features, and assurance of abundant supplies. The programs do not, however, target direct benefits only to farmers in need of financial assistance. Further, their growing budgetary costs adversely affect attempts to reduce the federal deficit.

The targeting options discussed in this report would generally provide a greater share of income support to farmers needing financial assistance. Lowering the payment limit would not increase payments to such farmers, but would provide them with a greater share of total payments. Applying different payment rates to farms depending on their size or applying declining payment rates to all farms as their production increases would, depending upon the specific payment schedule adopted, increase payments to financially needy farms and reduce payments to better-off farms. However, because measures of size and production are not perfectly correlated with farm financial condition, such programs would not be precise. A means-tested program, by definition, would provide more payments to financially needy farms and less payments to better-off farms.

These options could cause the loss of fewer family farms than might otherwise have been the case. Depending on the options' specific design, it could also lower budget outlays. In turn, if these options result in smaller total subsidies for program-crop production, then efficiency could be enhanced because farmers would have less incentive to produce program crops or remain in farming simply to receive payments.

The major advantages of a lower-payment-limit option seem to lie in potentially lower budget outlays and the relative ease with which this option could be administratively implemented (because a payment limit already exists). As a major disadvantage, a lower payment limit would not directly provide more help to those farmers most in need. Low-

income family farms would fare about as well as under existing programs but would be less likely to fare as well under this option compared to the other options discussed.

The targeting option that would scale income-support payments to program-crop farmers according to a measure of farm size represents a compromise between lowering the payment limit and a means-tested program. Accordingly, a major advantage of these proposals is that they represent an administratively feasible way to better scale traditional crop supports according to need without wholesale program restructuring; however, farm size measures are at best an imperfect indicator of financial condition or need. A principal disadvantage of these options is that they could economically distort a farmer's production decisions—particularly in program-crop production—more than the other options discussed (that is, government programs could play a more significant role in farmers' decisions regarding program-crop production, relative to the role of market conditions, than under the other options). In addition, like the other policy options, these proposals would require careful design so as not to increase budgetary outlays.

As a principal advantage, means-tested income-support options could best target benefits according to need. Another important advantage is that means-tested programs could distort economic incentives least of the options discussed, because benefits would not be tied to crop-production volume (and thus farmers would not necessarily produce more in order to receive more payments). Further, the comprehensive means-test option would not discriminate according to the specific agricultural product a farm produces (that is, payments need not be limited to growers of crops covered by current programs).

A major challenge facing the means-test options is the potentially greater administrative costs. A limited means-test program, applying to traditional program crops and scaling payments according to financial condition, would be less administratively burdensome than a comprehensive one because fewer farmers would be eligible. This option might succeed in cutting losses of family farms while staying within budget constraints. Moreover, it would tie benefits to financial condition more precisely than any of the options that do not include a means test.

The comprehensive means-test option represents, in effect, a wholesale restructuring of the agricultural support programs. It is therefore more likely to impose significant additional administrative costs. Relatedly, because all farmers could be eligible for payments under this option, it

could be difficult to design a program to limit budgetary outlays while at the same time preserving family farms.

Matters for Consideration

Current agriculture policy attempts to balance the goal of supporting farm incomes with price stability and other objectives. Our analysis shows that none of the targeting options analyzed potentially meet all agricultural policy goals. Therefore, if the Congress wishes to change the existing income-support program toward providing more assistance to farmers in financial need, it needs to identify which policy goals are most important. Once this is done, decisions can be made on which option, and in turn which program design, best meets the established objectives.

Three of the targeting options GAO analyzed would tend to provide a greater share of payments to farms in financial need but would do so imprecisely. Only the means-tested options precisely focus payments on the financially needy. However, this option represents a major policy change. Such a program would likely be more difficult to administer and could cause American agriculture to change in ways that cannot be easily predicted.

Additional Data on Farm Characteristics

Table I.1: Distribution of Participating Farms and Deficiency Payments by Program-Crop Production Level for Crop Year 1985

Production level (bushels)	Percent of Farms	Production (bushels) Quantity	Production (bushels) Percent	Payments Amount	Payments Percent
Wheat					
1 to 999	44.7	48,071,273	3.3	$124,859,894	6.9
1,000 to 2,499	21.5	170,961,402	11.7	215,726,600	11.9
2,500 to 4,999	15.3	258,786,840	17.8	320,221,508	17.7
5,000 to 7,499	6.4	185,671,064	12.8	228,000,517	12.6
7,500 to 9,999	3.3	136,382,077	9.4	166,692,906	9.2
10,000 to 12,499	2.0	103,448,533	7.1	126,191,156	7.0
12,500 to 14,999	1.2	79,787,145	5.5	97,014,117	5.4
15,000 to 19,999	1.4	116,784,573	8.0	141,280,705	7.8
20,000 to 24,999	0.8	82,226,178	5.7	98,874,134	5.5
25,000 and up	1.4	274,331,805	18.8	293,456,244	16.2
Not available	2.0	•	•	•	•
Total[a]	**100.0**	**1,456,450,890**	**100.0**	**$1,812,317,781**	**100.0**
Corn					
1 to 999	6.0	19,506,927	0.4	$10,691,558	0.4
1,000 to 2,499	14.6	138,914,104	2.7	67,038,734	2.7
2,500 to 4,999	21.7	434,040,775	8.4	209,322,148	8.5
5,000 to 9,999	26.6	1,042,522,450	20.1	502,947,816	20.4
10,000 to 14,999	12.4	818,180,893	15.8	394,771,603	16.0
15,000 to 19,999	6.4	591,919,754	11.4	285,535,549	11.6
20,000 to 29,999	5.4	704,648,383	13.6	339,934,419	13.8
30,000 to 39,999	2.2	405,339,210	7.8	195,255,711	7.9
40,000 and up	2.8	1,031,481,113	19.9	465,727,211	18.8
Not available	1.9	•	•	•	•
Total[a]	**100.0**	**5,186,553,609**	**100.0**	**$2,471,224,748**	**100.0**

Production level (pounds)	Percent of farms	Production (pounds) Quantity	Production (pounds) Percent	Payments Amount	Payments Percent
Rice					
1 to 99,999	20.2	146,637,524	1.4	$11,787,564	2.6
100,000 to 249,999	23.6	797,098,297	7.3	37,182,329	8.1
250,000 to 499,999	20.3	1,464,671,924	13.5	70,234,444	15.2
500,000 to 999,999	16.8	2,373,607,623	21.8	106,522,889	23.1
One million and up	14.8	6,099,240,166	56.1	235,482,889	51.1
Not available	4.3	•	•	•	•
Total[a]	**100.0**	**10,881,255,534**	**100.0**	**$461,210,115**	**100.0**

Production level (pounds)	Percent of farms	Production (pounds) Quantity	Production (pounds) Percent	Payments Amount	Payments Percent
Cotton					
1 to 2,499	14.3	4,912,672	0.1	$12,256,460	1.2
2,500 to 4,999	6.2	24,596,937	0.6	7,048,254	0.7
5,000 to 9,999	13.2	102,933,538	2.3	29,246,854	2.8
10,000 to 14,999	10.8	140,618,743	3.1	39,674,748	3.7
15,000 and up	53.6	4,199,294,473	93.9	971,685,320	91.7
Not available	1.9	•	•	18,689,634	•
Total[a]	**100.0**	**4,472,356,363**	**100.0**	**$1,059,911,636**	**100.0**

[a]Percentages may not add due to rounding.

Source: GAO calculation of ASCS data.

Table I.2: Distribution of 1985 Sales of Cash Grains, Soybeans, Other Beans, and Rice by Participating/ Nonparticipating Farms

Figures in percent

Sales class	Participating farms	Nonparticipating farms	Total farms
$250,000 and over	72.7	27.3	100.0
$100,000 to 249,999	76.9	23.1	100.0
$40,000 to 99,999	72.9	27.1	100.0
$30,000 to 39,999	65.9	34.1	100.0
$20,000 to 29,999	65.6	34.4	100.0
$10,000 to 19,999	57.7	42.3	100.0
$5,000 to 9,999	40.7	59.3	100.0
$2,500 to 4,999	30.3	69.7	100.0
$1,000 to 2,499	24.6	75.4	100.0
$0 to 999	21.2	78.8	100.0

Source: GAO calculation of FCRS data.

Relationship Between Participating Farms' Program Crop Sales, Total Farm Sales, and Net Cash Farm Income

Is there a positive relationship between participating farms' sales of program crops and net cash farm income? Table I.3 shows that those farms with negative net cash farm incomes (losses) seem to be prevalent in both small and large program-crop sales categories. However, as net cash farm income rises, a larger percentage of farms with higher program-crop sales tends to occur. Just the opposite tends to be the case for farms with lower program-crop sales levels.

Table I.4 also shows that farms with higher net cash farm incomes tend to be associated with higher total farm sales. Just the opposite pattern appears for farmers with lower net cash farm incomes; they tend to cluster in the lower total farm sales level categories. However, a significant number of participating farms with higher total sales had negative

net cash farm incomes. For example, about 23 percent of the farms with total sales exceeding $100,000 (12,497 out of 53,128) had negative net cash farm incomes.

Table I.3: Relationship Between Participating Farms' 1985 Sales of Grains, Rice, Beans, and Cotton, and Net Cash Farm Income

	Farms						
	Sales of grain, rice, beans, and cotton						
Net cash farm income class[a]	**$1-$9,999**	**$10,000-19,999**	**$20,000-39,999**	**$40,000-99,999**	**$100,000-499,999**	**$500,000 and over**	**Total**
$500,000 and over	b	b	b	b	b	b	1,446
$250,000 - 499,999	b	b	b	b	983	975	3,609
$100,000 - 249,999	b	b	1,441	2,547	12,012	b	17,871
$40,000 - 99,999	b	5,885	15,984	26,175	15,110	b	70,103
$30,000 - 39,999	b	b	5,540	12,960	2,847	b	31,039
$20,000 - 29,999	b	9,750	9,800	8,138	2,879	b	39,949
$10,000 - 19,999	b	9,472	9,493	11,072	b	b	44,379
$5,000 - 9,999	b	b	b	4,944	b	b	24,882
$2,500 - 4,999	b	b	b	b	b	b	11,186
$1,000 - 2,499	b	b	b	b	b	b	b
$0 - 999	b	b	b	b	b	b	b
Less than $0	b	13,823	20,061	18,326	11,999	498	86,753
Total[c]	**74,048**	**53,793**	**71,384**	**87,442**	**50,657**	**2,471**	**339,794**

[a]Excluding government payments and including off-farm income.

[b]Data insufficient to make a reliable estimate.

[c]Includes missing data.

Source: GAO calculation of FCRS data.

Table I.4: Relationship Between Participating Farms' Total Sales and Net Cash Farm Income

	Farms							
	Total sales per farm							
Net cash farm income class	$9,999 or less	$10,000-19,999	$20,000-39,999	$40,000-99,999	$100,000-249,999	$250,000-499,999	$500,000 and over	Total
$150,000 and over	a	a	a	a	2,370	4,292	5,690	12,556
$100,000 to 149,999	a	a	a	a	7,129	4,850	1,442	13,765
$50,000 to 99,999	a	a	a	5,929	29,080	9,110	1,875	46,594
$20,000 to 49,999	a	a	a	39,261	30,546	7,296	528	81,225
$0 to 19,999	a	12,928	26,110	36,186	18,158	2,996	a	103,629
$-1 to -5,999	a	a	7,459	10,105	4,547	a	a	35,140
$-6,000 to -20,000	a	a	9,196	14,687	7,347	a	a	45,018
More than $-20,000	a	a	5,152	13,639	15,940	6,481	3,107	46,360
Total[b]	**18,968**	**26,879**	**51,907**	**120,353**	**115,118**	**37,754**	**13,308**	**384,287**

[a]Insufficient data for reliable estimate.

[b]Includes missing data.

Source: GAO calculation of FCRS data.

Table I.5: Distribution of Total Acres Operated by Participating and Nonparticipating Farms

Figures in percent

Acres operated	Participating farms	Nonparticipating farms	Total farms
2,001 and more	39.1	60.9	100.0
1,001 to 2,000	59.4	40.6	100.0
501 to 1,000	54.7	45.3	100.0
251 to 500	38.9	61.1	100.0
101 to 250	19.6	80.4	100.0
Less than 100	3.5	96.5	100.0

Source: GAO calculation of FCRS data.

Table I.6: Relationship Between Participating Farms' Total Sales and Total Acres Operated

	Farms					
	Total acres operated[a]					
Total sales class	100-249	250-499	500-999	1,000-2,499	2,500 and over	Total
$500,000 and over	b	b	1,786	6,565	4,704	13,308
$250,000 - 499,999	b	3,503	12,252	17,822	3,764	37,754
$100,000 - 249,999	b	30,752	43,532	28,839	6,244	115,118
$40,000 - 99,999	21,741	48,296	33,342	12,869	b	120,353
$30,000 - 39,999	13,167	9,978	b	b	b	29,771
$20,000 - 29,999	11,421	b	b	b	b	22,137
$10,000 - 19,999	16,001	b	b	b	b	26,879
$5,000 - 9,999	b	b	b	b	b	12,234
$2,500 - 4,999	b	b	b	b	b	b
$1,000 - 2,499	b	b	b	b	b	b
$0 - 999	b	b	b	b	b	b
Total[c]	**76,602**	**104,483**	**99,492**	**68,564**	**17,857**	**366,998**

[a]17,289 farms operated less than 100 acres of land but their farm sales classes could not be reliably estimated.

[b]Data insufficient for reliable estimate.

[c]Includes missing data.

Source: GAO calculation of FCRS data.

Table I.7: Distribution of Participating Farms by Planted Acres of Wheat, Corn, Rice, and Cotton

Planted acres	Percent of farms	Planted acres		Payments	
		Number	Percent	Amount	Percent
Wheat					
Less than 100	72.4	9,069,511	21.7	$470,977,410	26.0
100 to 249.9	17.0	12,639,309	30.3	529,672,063	29.2
250 to 499.9	6.0	9,769,704	23.4	413,334,613	22.8
500 to 999.9	2.0	6,458,966	15.5	270,579,177	14.9
1,000 or more	0.5	3,781,327	9.1	127,754,518	7.0
Not available	2.0	•	•	•	•
Total[a]	**100.0**	**41,718,817**	**100.0**	**$1,812,317,781**	**100.0**
Corn					
Less than 100	70.2	17,458,700	35.7	$847,391,267	34.3
100 to 249.9	22.0	17,733,755	36.3	917,108,187	37.1
250 to 499.9	4.5	8,137,616	16.7	432,823,469	17.5
500 to 999.9	1.1	3,940,555	8.1	207,311,269	8.4
1,000 or more	0.2	1,596,753	3.3	66,590,557	2.7
Not available	1.9	•	•	•	•
Total[a]	**100.0**	**48,867,379**	**100.0**	**$2,471,224,748**	**100.0**
Rice					
Less than 100	62.7	495,017	22.1	$112,532,710	24.4
100 to 249.9	22.4	705,141	31.5	152,371,506	33.0
250 to 499.9	7.8	524,489	23.4	105,721,848	22.9
500 to 999.9	2.2	297,165	13.3	55,812,036	12.1
1,000 or more	0.6	216,847	9.7	34,772,014	7.5
Not available	4.3	•	•	•	•
Total[a]	**100.0**	**2,238,659**	**100.0**	**$461,210,115**	**100.0**
Cotton					
Less than 100	75.2	2,556,533	31.7	$354,520,753	33.8
100 to 249.9	16.9	2,717,617	33.7	351,994,548	33.5
250 to 499.9	4.7	1,635,728	20.3	206,630,879	19.7
500 to 999.9	1.1	771,128	9.6	93,459,325	8.9
1,000 or more	0.3	393,172	4.9	43,306,131	4.1
Not available	1.9	•	•	•	•
Total[a]	**100.0**	**8,074,178**	**100.0**	**$1,049,911,635**	**100.0**

[a]Totals may not add due to rounding.
Source: GAO calculation of ASCS data.

Table I.8: Relationship Between Participating Farms' Net Cash Farm Incomes and Production of Selected Program Crops

	Wheat, corn, cotton, and rice production: tons per farm								
Net cash farm income class	**99 or less**	**100-299**	**300-499**	**500-699**	**700-899**	**900-1,099**	**1,100-1,299**	**1,300 or more**	**Total**
$150,000 and over	a	a	a	a	a	a	a	8,048	12,366
$100,000 to 149,999	a	a	a	a	a	a	a	6,314	13,760
$50,000 to 99,999	a	a	5,994	7,796	8,080	3,911	4,591	10,784	46,510
$20,000 to 49,999	3,845	13,711	18,430	16,345	6,619	7,585	4,523	8,646	79,704
$0 to 19,999	22,717	35,396	17,233	7,452	3,676	4,034	3,059	3,430	96,998
$-1 to -5,999	7,895	9,975	5,933	3,587	a	a	a	a	31,715
$-6,000 to -20,000	11,842	13,931	7,951	3,958	a	a	a	1,304	43,221
More than $-20,000	5,549	8,883	7,154	7,141	3,541	2,547	2,216	7,833	44,864
Total[b]	**54,210**	**87,102**	**64,455**	**48,213**	**26,811**	**24,347**	**15,963**	**48,037**	**369,138**

[a]Data insufficient to make reliable estimate.

[b]Includes missing data.

Source: GAO calculation of FCRS data.

Table I.9: Distribution of Participating and Nonparticipating Farms by Organization Type

Figures in percent

Organization type	**Participating farms**	**Nonparticipating farms**	**Total Farms**
Individual Partnership:	85.2	90.0	88.8
Two partners	8.6	5.7	6.4
Three or more partners	2.3	1.5	1.7
Corporation	3.9	2.7	3.0
Cooperative[a]	a	a	0.1
Total farms[b]	**100.0**	**100.0**	**100.0**

[a]Data insufficient for reliable estimate.

[b]Totals may not add due to rounding.

Source: GAO calculation of FCRS data.

Table I.10: Distribution of Participating and Nonparticipating Farms by Occupational Specialty of Operator[a]

Figures in percent

Occupational specialty	**Participating farms**	**Nonparticipating farms**	**Total farms**
Farming	85.4	55.8	63.1
Hired manager	0.8	1.1	1.0
Other	13.8	43.1	35.8
Total farms[b]	**100.0**	**100.0**	**100.0**

[a]Excludes nonoperating investors.

[b]Totals may not add due to rounding.

Source: GAO calculation of FCRS data.

Table I.11: Distribution of Farms by Land Operation

Figures in percent

Land operated	Participating farms	Nonparticipating farms	Total farms
Owned only	21.1	53.2	45.2
Rented only	16.4	8.8	10.7
Owned and rented	62.5	38.1	44.1
Total[a]	**100.0**	**100.0**	**100.0**

[a]Totals may not add due to rounding.

Source: GAO calculation of FCRS data.

Table I.12: Distribution of Farms by Net Cash Farm Income, Excluding and Including Nonfarm Income

Figures in percent

	Participating farms		Nonparticipating farms	
Net Farm Income	Excluding nonfarm income	Including nonfarm income	Excluding nonfarm income	Including nonfarm income
$150,000 and over	3.4	3.9	1.4	3.6
$100,000 to 149,999	3.6	3.9	0.7	1.3
$50,000 to 99,999	12.2	17.5	2.7	10.4
$20,000 to 49,999	21.1	30.3	7.0	27.7
$0 to 19,999	27.0	24.8	28.0	42.0
$-1 to -5,999	9.1	3.1	27.3	4.5
$-6,000 to -20,000	11.7	6.5	23.4	5.1
More than $-20,000	11.9	8.4	9.1	4.7
Unknown	•	1.6	0.4	0.8
All farms[a]	**100.0**	**100.0**	**100.0**	**100.0**

[a]Totals may not add due to rounding.

Source: GAO calculation of FCRS data.

Differences Between Data Provided by ASCS and FCRS

We obtained information on recipients of 1985 commodity program payments from two sources. ASCS files and the Farm Costs and Returns Survey (FCRS) were the primary sources used for information on recipients' crops, farms, and financial conditions. Both sources report numbers of farms and farmers receiving program payments. The ASCS data provide information on all participating farms, while the FCRS data are obtained from a sample survey of participating and nonparticipating farms, which is designed to be representative of a larger number of farms.

ASCS Files

The ASCS farm and payment files contain records of each farm enrolled in the commodity price- and income-support programs, as well as records of payments made to each producer. The 1985 crop year files (98 percent complete at the time of our analysis) contain payment data for about 920,000 farms. We used one file to identify each farm's form of business organization; the farm(s) for a given producer; and, if a farm had more than one producer, the percentage share for each of them. We also used this file for base acreage, planted acreage, and crop-yield information for each crop eligible for program payments.

Another ASCS file provided information on the actual deficiency and diversion payments made to producers. However, the ASCS files report data concerning participating farms only; they do not provide the level of detailed, comprehensive information representative of the nation's farms in general, as found in the FCRS information. We provided the programming necessary for the information in the report. However, we did not independently verify the accuracy of the data in the ASCS files.

FCRS

FCRS is a multiframe probability-based survey. The sample of farm operators, compiled by USDA's National Agricultural Statistics Service, consists of farmers chosen from a list of known operators and areas of rural land of known size in which all residents were interviewed to determine if they qualify as farm operators. To qualify as a farm for FCRS, an operation must have produced or sold at least $1,000 worth of agricultural products or spent at least $1,000 for feed, supplies, or equipment for the purpose of producing agricultural products. For 1985, about 11,500 usable responses were obtained. The resulting data were used to generate information representing about 1.6 million farm operations out of an estimated nationwide total of 2.3 million farms. The survey represented about 982,000 out of an estimated 1.1 million farms with sales of $10,000 and over in 1985.

We identified FCRS as the best available source of data because it provides (1) information on all farms, whether or not they participate in government programs, and (2) more comprehensive, detailed data about each farm operation than ASCS data files, including all crops produced and sold, costs of production, farm ownership and management, and farm income. For our analysis, we separated the farms represented by FCRS into two groups—participating and nonparticipating. Participating farms were defined as those that (1) received government payments in 1985 and (2) idled cropland for program participation purposes. ERS sorted, tabulated, and analyzed these data for farms with various production, sales, debt, and payment level characteristics and completed cross-tabulations that highlighted certain farm characteristics and financial conditions.

Comparison of ASCS and FCRS Data

ASCS and FCRS data differ in important ways. First, FCRS data is derived by surveying a sample of farms nationwide, both participating and nonparticipating; the sample is designed so that the data obtained can be reasonably used to represent a larger number of farms, although not necessarily all farms. In contrast, ASCS' files are designed to hold actual farm and payment data for all participating farms and producers.

Second, FCRS and ASCS do not use the same definition of "farm." To qualify as a farm for FCRS, an operation must have produced or sold $1,000 or more worth of agricultural products or spent at least $1,000 for feed, equipment, or other supplies for the purpose of producing agricultural products. In contrast, ASCS generally defines farms in terms of land area, regardless of sales or expenditures. Therefore, an FCRS "farm" may comprise more than one ASCS "farm" or vice versa.

Third, the FCRS survey is designed to obtain data about farm operations on a calendar year basis; that is, survey respondents provide information about their farms—crop production and sales, government payments received, and so forth—for a specific calendar year. However, program crops are sometimes not sold in the same calendar year in which they are produced; similarly, government payments applicable to a specific year's crops may be made during a subsequent year. Therefore, sales of program crops and receipt of government payments reported for a calendar year to FCRS may pertain to crops grown during a previous year. In contrast, ASCS files show payments made to farms and producers on a crop year basis; that is, the data show payments made to producers for a specific year's crops, regardless of the calendar year in which the payments were actually made.

Fourth, FCRS does not distinguish between different kinds of government payments. Farms that reported receiving government payments could have received not only deficiency and diversion payments, but a variety of payments under other government programs (for example, government crop insurance payments). Consequently, the 1985 FCRS data show that farms we defined as nonparticipating because they did not report idling land received almost $1 billion in government payments.

Fifth, ASCS determines production volume by multiplying the number of acres by the expected crop yield (i.e., bushels or pounds) per acre. ASCS calculates this expected yield by using historical production averages and making crop-specific adjustments. The FCRS data are based on actual, reported yields, which generally provide higher production volumes (an exception is cotton) than the ASCS data. In addition, ASCS and FCRS use different definitions of planted acres.

Tables II.1 and II.2 compare ASCS and FCRS information.

Table II.1: Comparison of ASCS and FCRS 1985 Production and Planted Acres Data

Figures in millions

	Production		Planted Acres	
Commodity	**ASCS**	**FCRS**	**ASCS**	**FCRS**
Wheat (bu.)	1,456.5	1,359.5	41.7	38.4
Corn (bu.)	5,186.6	7,338.2	48.9	53.4
Grain sorghum (bu.)	505.6	786.1	8.3	10.4
Barley/oats (bu.)	340.2	593.8	6.9	11.2
Cotton (lbs.)	4,472.4	3,683.7	8.1	6.4
Rice (lbs.)	10,881.3	13,048.2	2.2	2.4

Source: GAO calculation of ASCS and FCRS data.

Table II.2: Comparison of ASCS and FCRS Data on Farm Organization Type

Figures in percent

Organization type	**ASCS**	**FCRS**
Individuals	87.3	85.2
Corporations	3.7	3.9
Partnerships and other combinations	9.0	10.9
Total	**100.0**	**100.0**

Source: GAO calculation of ASCS and FCRS data.

Finally, ERS estimates that the 1985 FCRS data are representative of about 384,000 participating farms and about 1,173,000 nonparticipating farms, out of an estimated 2.3 million U.S. farms. In contrast, ASCS data show that payments for the 1985 crop year were made to about 920,000

farms participating in the commodity programs. In addition to the discrepancies caused by different definitions of "farm," differences in participation rates arise when farms are counted by type of commodity, rather than overall. For example, farms might plant barley and oats "outside" the program (that is, do not participate in the programs for these commodities), yet participate in the program for their corn acreage. These farms would not be reported in the ASCS barley and oats data but would be designated as "participating farms" in our FCRS data if they received payments for their corn production and idled part of their acreage.

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