United States General Accounting Office

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Report to the Chairman, Committee on Agriculture, Nutrition, and Forestry, U.S. Senate

January 1992

CROP INSURANCE

Program Has Not Fostered Significant Risk Sharing by Insurance Companies

145685

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Resources, Community, and
Economic Development Division

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January 13, 1992

The Honorable Patrick J. Leahy
Chairman, Committee on Agriculture,
Nutrition, and Forestry
United States Senate

Dear Mr. Chairman:

In response to your request, this report examines the federal crop insurance reinsurance program. Specifically, the report provides information on some of the major problems that have affected the program since 1980, the success of the federal government in shifting its potential liability for agricultural production losses to reinsured companies, and the Federal Crop Insurance Corporation's actions to comply with the 1990 farm bill directive. The report makes no recommendations.

As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of this report until 7 days after the date of this letter. At that time, we will send copies to the appropriate House and Senate Committees and Subcommittees; interested Members of Congress; the Secretary of Agriculture; the Director, Office of Management and Budget; and other interested parties. We will also make copies available upon request.

This work was performed under the direction of John W. Harman, Director, Food and Agriculture Issues, who can be reached at (202) 275-5138. Other major contributors to this report are listed in appendix IV.

Sincerely yours,

J. Dexter Peach
Assistant Comptroller General

Executive Summary

Purpose

As a result of legislation enacted in 1980, private insurance companies bear a portion of the risk on the federal crop insurance policies they sell, and the Federal Crop Insurance Corporation (FCIC) assumes, through a reinsurance program, a portion of the companies' potential liabilities. The reinsured companies, however, bore very little risk on the policies they sold between 1981 and 1990: The federal government paid farmers almost $2.3 billion over the amount of premiums received from farmers and the government's premium subsidy. Consequently, FCIC was directed in the 1990 farm bill to shift more of the risk of insurance losses to the private sector.

Because the amount of risk borne by private insurance companies remains a continuing congressional concern, the Chairman, Senate Committee on Agriculture, Nutrition, and Forestry, asked GAO to provide (1) an historical perspective on some of the major problems affecting the program since 1980, including information on the success of the federal government in shifting its risk for agricultural production losses to reinsured companies, and (2) an overview of FCIC's actions to comply with the 1990 farm bill directive to shift more risk.

Background

The U.S. Department of Agriculture (USDA) provides disaster assistance to farmers through direct cash payments, subsidized loans, and federally subsidized crop insurance. Because of criticism that the direct payment program was too expensive and that the government was assuming too much of the farmers' production risk, the Congress enacted legislation in 1980 to make crop insurance the primary means for providing agricultural disaster assistance. The Congress expected the program to be actuarially sound, with high levels of participation and private sector risk sharing. Insurance companies bear risk on the policies they sell by paying indemnities when farmers make insurance claims. To reduce the amount of risk they must bear, insurance companies may purchase reinsurance from FCIC. The standard reinsurance agreement governs how the reinsured companies and FCIC share the gains and losses after claims are adjusted. The agreement is revised annually by FCIC after consulting with the reinsured companies.

Results in Brief

The federal crop insurance program has experienced numerous problems since the Congress reformed it in 1980. These problems—which GAO has reported on over the last 11 years—have contributed to the program's inability to meet many of the goals the Congress established for actuarial soundness, private sector risk sharing, and participation. (See Bibliography of Related GAO Products.) In addition, the provision of ad hoc disaster payments has undercut the role of crop insurance as the nation's primary method for delivering disaster assistance.

During the 1980s the government bore most of the risk for excess program losses. To ensure that companies would participate in the program, FCIC's reinsurance terms effectively shielded the companies from these losses. In fact, the reinsured companies collectively realized small profits in the years when the policies they sold had large losses. From 1981 to 1990, FCIC sustained over $2.3 billion in excess losses, while the reinsured companies had net gains, through underwriting, of $101 million.

As required under the 1990 farm bill, reinsured companies will bear more risk under the 1992 standard reinsurance agreement than they did under previous agreements. The amount of risk retained by the companies, however, will remain modest compared to the liability assumed by the government. Because the federal crop insurance program is likely to continue to experience excess losses, reinsured companies will have neither the capability nor the incentive to assume significantly greater amounts of risk.

Principal Findings

Crop Insurance Has Experienced Problems Since 1980

In a series of reports over the past 11 years, GAO has criticized FCIC's management for poor internal controls, insufficient control over the reinsured companies, overly generous standard reinsurance agreements, and too rapid program expansion. In addition, GAO has noted that the Congress' provision of emergency loans and disaster payments undercuts FCIC's ability to increase program participation. All of these factors—plus unusually adverse weather conditions—have contributed to FCIC's bleak financial condition and the inability of the program to meet its goals. Although the program has been made available to most farmers across the nation and is now delivered primarily by the private sector, it has not been made actuarially sound, and private sector risk sharing has been minimal. In addition, participation has been less than the 50 percent hoped for, staying below 25 percent of the eligible acres for most of the decade. This low participation occurs in part because the government's provision of ad hoc disaster payments and emergency loans discourages some farmers from participating. Of the $25 billion in costs that USDA incurred between 1980 and 1990 for insurance, loans, and direct payments, $19 billion, or 76 percent of the total disaster funds spent, was for disaster payments and emergency loan programs, which are alternatives to federal crop insurance.

Government Retained Virtually All Crop Insurance Liability Between 1981 and 1990

Private insurance companies assumed only a very small portion of the financial risk associated with federal crop insurance under the terms of standard reinsurance agreements in effect during the 1980s. This occurred, in part, because FCIC insures certain types of risks that commercial insurance would not handle.

The reinsurance terms between the companies and FCIC effectively shielded the reinsured companies from the significant losses that the program experienced in the 1980s. For example, from 1986 to 1990, the reinsured companies' share of maximum probable loss—a measure of what losses would be under a worst-case scenario—ranged between 2.0 and 2.3 percent, with FCIC responsible for the balance of losses. Consequently, FCIC incurred most of the underwriting losses for the program. Each year since the reinsurance program began, FCIC has experienced net underwriting losses on its multirisk policies, totaling about $2.3 billion between 1981 and 1990. Yet the reinsured companies had underwriting profits in 7 of those 10 years, contributing to an overall net underwriting profit of $101 million. Increased risk bearing by reinsured companies would provide companies with more incentive for diligent program management, including loss adjustment, which could reduce excess losses.

Reinsured Companies Will Bear More Risk Under the 1992 Standard Reinsurance Agreement

Under FCIC's 1992 standard reinsurance agreement, reinsured companies will bear more risk than they did under previous agreements, as required by the 1990 farm bill. The 1992 agreement requires companies to retain more risk of loss on the policies they write, reduces the amount of stop-loss protection available (which protects an insurance company from financial ruin if catastrophic losses occur), and requires companies to take more financial risks to earn underwriting gains. The agreement makes it possible for companies to earn more gains by allowing the companies to put more premiums at risk, but the amount of risk they must assume to earn gains is higher than it was under the 1991 agreement. For example, in 1990, reinsured companies had the potential to gain a dollar for every dollar they could lose. Under the 1992 agreement, however, the potential gain compared with the potential loss of a dollar ranges from 34 cents to 46 cents, depending on how much risk reinsured companies are willing to take.

Despite this increased risk, the amount of risk retained by the companies will remain limited because the program, from a business perspective, is fundamentally unsound. Consequently, the standard reinsurance agreement, without significant program changes, cannot do much to substantially change the amount of risk allocated between the private sector and the government.

Recommendations

This report makes no recommendations because a subsequent report, being prepared at the Chairman's request, will analyze the conditions under which FCIC will be able to shift more risk to reinsured companies and will analyze the tradeoffs in program goals that would be involved.

However, as GAO has reported in the past, achieving the 1980 legislative goals has been an elusive and difficult task—a task made even more difficult because of ad hoc disaster payments. Under such conditions, it is not likely that FCIC can significantly increase the amount of risk borne by private insurance companies without discouraging these companies' participation in the program. Instead, fundamental policy decisions—involving tradeoffs among high participation, fiscal soundness, and the provision of ad hoc payments—will have to be made by the Congress.

Agency Comments

We received written comments from USDA on a draft of this report. (See app. III for USDA's comments.) USDA did not comment on GAO's analysis of the problems faced by FCIC from 1980 to 1990. USDA agrees with GAO that the 1992 agreement is a first step in requiring companies to assume a meaningful share of risk. USDA noted that its initiatives to improve program performance—especially improving actuarial soundness and combating fraud and abuse—can provide opportunities for greater risk sharing in future reinsurance agreements.

Contents

Abbreviations

ASCS	Agricultural Stabilization and Conservation Service
FCIC	Federal Crop Insurance Corporation
FmHA	Farmers Home Administration
USDA	U.S. Department of Agriculture

Introduction

The U.S. Department of Agriculture (USDA) provides disaster assistance to farmers through direct cash payments and federally subsidized loans and crop insurance. These programs are designed to help protect farmers from loss of income if their crops are damaged or destroyed by natural causes. Because of criticism that the direct payment program was too expensive and that farmers were not bearing enough of the risk of production, the Congress enacted the Federal Crop Insurance Act of 1980 (P.L. 96-365, Sept. 26, 1980), which greatly expanded the federal crop insurance program. At the time, the Congress believed that a greater emphasis on crop insurance—which would be funded in part by premiums paid by farmers—would alleviate the need for expensive ad hoc disaster assistance programs. Since that time, while the coverage of and participation in the program has grown, the percentage of eligible acres insured under the program has never reached the 50-percent goal set by the House Committee on Agriculture when the 1980 legislation was passed. Consequently, the Congress passed four ad hoc disaster assistance laws to alleviate the effects of major droughts in the 1980s.

A key component of the 1980 legislation was the enlistment for the first time of private insurance companies to sell, service, and share the risk on federal crop insurance policies. Under the act, the federal government sets policy prices and terms, regulates the companies, provides administrative support, and provides reinsurance to the companies.[1] By 1990 approximately 89 percent of federal crop insurance was sold by companies bearing some risk on the policies they sell, and the rest by independent agents selling for the Federal Crop Insurance Corporation (FCIC).

Federal Crop Insurance From 1938 Through 1980

The Congress created federal crop insurance in 1938 after private insurance companies were unable to establish a financially viable, multirisk crop insurance business. This effort failed because the companies had inadequate data on how to set premiums, which caused them to set prices too low. Private insurance companies continued to provide coverage for hail and fire damage, which generally are not prone to widespread catastrophe. The Congress created federal crop insurance—which was backed by the resources of the Treasury—to address these and other problems that were preventing a private multirisk crop insurance industry from forming.

[1] Insurance companies often seek to reinsure a portion of the insurance they sell to spread their risks to larger groups of financial pools and thus reduce their potential liability for paying claims.

The Federal Crop Insurance Act of 1938 created FCIC to administer the program. FCIC initially offered coverage to wheat production only (and then to cotton production). Despite its limited scope, the program was impaired by high costs, low participation, and an inability to accumulate adequate reserves for catastrophic losses. After briefly canceling the program in 1944, the Congress stemmed large operating losses in 1947 by restricting program coverage to crops and areas where the program would not need federal subsidies. Consequently, the program did not cover a substantial portion of U.S. agricultural production.

Increasingly, the federal government closed this gap by offering disaster assistance payments and various emergency loan programs. Beginning in the mid-1970s, for example, USDA provided disaster assistance for crop failures mainly through direct cash payments—paying an average of $436 million annually to farmers between 1974 and 1980—under standing disaster assistance legislation, and by providing emergency loans through the Farmers Home Administration (FmHA). USDA made an average of $965 million in emergency loans annually between 1970 and 1979.

In contrast, federal crop insurance remained limited in scope, covering only 30 crops in one-half of the nation's counties by 1980. Participation rates were low even where crop insurance was available. For example, about 10 percent of the eligible crop acreage was insured in 1980—about 7 percent of total planted acreage.

Crop Insurance Intended to Be the Preeminent Means for Providing Disaster Assistance

By 1980 the Congress had begun to turn away from disaster assistance for providing relief and focused its attention on crop insurance. Three main deficiencies characterized the disaster payment program: It was (1) costly; (2) inequitable because it only provided payments to farmers of the six primary program crops—wheat, corn, sorghum, barley, upland cotton, and rice; and (3) inefficient because it encouraged farmers to plant crops in marginal land that was susceptible to natural disasters.

The Congress enacted legislation in 1980 to make crop insurance the preeminent means for providing agricultural disaster assistance. More ambitious than earlier crop insurance programs, the act had the following goals:

- Abolish government-funded disaster payments by increasing crop insurance participation. In fact, the House Committee on Agriculture envisioned that the program would insure 50 percent of eligible acres. The act permitted FCIC to insure any agricultural commodity grown in the country if sufficient actuarial data were available.[2]
- Provide crop insurance more efficiently by taking advantage of private sector expertise. The act promoted the use of private insurance companies—to the maximum extent possible—to sell, service, and bear risk on federal crop insurance. Previously, crop insurance was sold by USDA county offices.
- Reduce the amount of federal costs the government was bearing for unavoidable crop failure. The act required FCIC to operate the program on an actuarially sound basis with sufficient premium income to cover payments for insurance claims. The act also required FCIC to set aside, as expeditiously as possible, sufficient funds—interpreted by FCIC as 10 percent of premiums—for unforeseen losses.
- Operate the program within a budget. In an actuarially sound program, USDA could predict program costs better, assuming its participation figures were relatively accurate. In contrast, disaster payments could vary with each year's production disasters.
- Reduce insurance costs for farmers by providing federal subsidies for the program. Farmers, with the assistance of government premium subsidies, would pay actuarially sound rates for their policies. The government would pay for the program's administrative costs.
- Require FCIC to share the financial risk of program losses with participating insurance companies. Under the act, insurance companies bear the risk of paying indemnities for their policies. FCIC provides the companies with reinsurance—in effect, insurance for the insurance companies—to minimize each company's risk and spread the risk among larger geographic areas. Under an actuarially sound program, participating insurance companies would bear much of the risk for paying indemnities. This means they would stand to earn gains in good years and absorb losses in bad years, commensurate with the amount of risk they chose to assume.

[2] To increase participation, USDA made crop insurance more widely available to farmers by eliminating some cost-containment features, such as the restriction on writing insurance in high-risk areas, and by relaxing underwriting standards to ensure broader coverage. In general, farmers were entitled to purchase crop insurance, if available, regardless of the riskiness of their farming enterprise.

How the 1980 Federal Crop Insurance Program Works

Federal crop insurance protects participating farmers against unavoidable risks, such as droughts, floods, insect infestations, and other natural disasters.[3] All farmers are eligible to participate if FCIC offers an insurance program in their county for the crop in production. In 1991, 21,373 county programs covered 51 different program crops.[4] Participants can elect coverage of 50, 65, or 75 percent of their normal yield and choose any price selection ranging from 30 percent to 100 percent of the crop's expected market price. Yields are based on either the average of a farmer's actual 10-year production history or, if such information is unavailable, on the average yield estimated for the local crop-producing area. Insurance premium rates vary depending upon the level of coverage chosen, including the type of crop insured, the production guarantee, the price selection, and the location of the farm.

For example, if a farmer produces an average of 100 bushels of corn per acre and selects the 75-percent coverage level, the farmer's production guarantee is 75 bushels per acre, or 75 percent of 100 bushels. Should a covered risk such as drought limit the farmer's production to 50 bushels, the farmer would have an insured loss of 25 bushels per acre—the difference between the production guarantee of 75 bushels and the actual production of 50 bushels. Assuming the farmer elected to insure the crop at $2.00 per bushel, federal crop insurance would indemnify the farmer at $2.00 x 25 bushels, or $50.00 per acre.

In response to the legislative mandate for greater private sector involvement, FCIC developed two systems for delivering crop insurance—master marketers and reinsured companies.

- Master marketers are private insurance companies that sell crop insurance as agents for FCIC. Under FCIC's rules, master marketers bear no risk on the policies they sell and do not adjust claims. The federal government retains all premiums and pays all indemnities.
- Reinsured companies sell, service, and settle claims on their own crop insurance policies, although the premiums and program policies are established by FCIC. Unlike master marketers, reinsured companies bear risk on the policies they sell. They are also entitled to reinsurance from FCIC on the insurance they sell. Consequently, reinsured companies and

[3] See app. I for a description of a farmer's considerations in managing agricultural risks.

[4] The number of county programs is determined by identifying the number of crops covered in each county and adding the totals of each county together. For example, if County A offers crop insurance for 10 crops and County B for 7 crops, then the total number of county programs is 17.

FCIC share the gains and losses resulting from these policies. This reinsurance relationship is governed by the standard reinsurance agreement, which is revised annually by FCIC after consultation with the reinsured companies.

FCIC subsidizes 30 percent of the premium costs for all policies up to the 65-percent coverage level, and pays for the program's administrative costs, including administrative reimbursements for reinsured companies (which have been 34 percent of the total premium in recent years) and master marketers (which have been 20 percent of the total premium in recent years). FCIC also pays for excess program losses under its reinsurance agreement.[5]

Objectives, Scope, and Methodology

Because the amount of risk borne by private insurance companies remains a continuing congressional concern, the Chairman, Senate Committee on Agriculture, Nutrition, and Forestry, asked us to examine the use of reinsurance in the federal crop insurance program. More specifically, this report provides information on some of the major problems affecting the program since 1980. (See ch. 2.) It also discusses the success of the federal government in shifting its risk for agricultural production losses to reinsured companies (ch. 3) and FCIC's actions to comply with the 1990 farm provisions,[6] which require FCIC to revise its reinsurance agreement to require the reinsured companies to bear an increased share of any potential insurance losses (see ch. 4). A subsequent report, being prepared at the Chairman's request, will analyze the conditions under which FCIC will be able to shift more risk to reinsured companies and the tradeoffs in program goals that would be involved. Consequently, this report makes no recommendations.

To address our objectives, we interviewed FCIC officials, including the Manager and Deputy Manager, and reviewed pertinent records, files, and studies at FCIC's headquarters in Washington, D.C., and its main field office in Kansas City, Missouri. We also reviewed previous GAO reports that dealt with the problems facing federal crop insurance. We obtained the opinions of representatives of several participating reinsured companies and of representatives of crop insurance industry organizations. We attended two public meetings conducted by FCIC to obtain

[5] Excess loss is defined as the difference between indemnities and premiums collected (including the government premium subsidies), when indemnities exceed premiums.

[6] The Food, Agriculture, Conservation and Trade Act of 1990 (P.L. 101-624, Nov. 28, 1990), title XXII.

comments from the industry and the public about proposed revisions to the program.

We also reviewed pertinent prior studies and reports concerning crop insurance, disaster payments and emergency loans issued by USDA, the Congressional Research Service, and other organizations. We obtained program cost data and information about program operations from FCIC, the Agricultural Stabilization and Conservation Service (ASCS), and FmHA. In identifying the costs, we included all major USDA disaster program costs used to compensate producers for lost crops and to help restore the productive capacity of their farms and ranches. We did not independently verify the accuracy of these data.

We analyzed FCIC's past standard reinsurance agreements and the Corporation's revised standard reinsurance agreement for 1992 to determine the effect of the changes of the revised agreement on FCIC and the reinsured companies and to determine the extent to which the revised agreement shifted risk to the private sector. We obtained assistance in developing and refining our methodology from a crop insurance consultant, W. Michael Gudger, an independent crop insurance expert.

We conducted our review from August 1990 to June 1991. Our work was performed in accordance with generally accepted government auditing standards.

Crop Insurance Has Been Beset With Problems Since 1980

The federal crop insurance program has been beset with major problems since the Congress reformed it in 1980. In a series of reports over the past 11 years, we have criticized FCIC's management for (1) inaccurate price forecasting, (2) poor internal controls for creating new programs, (3) insufficient control over the reinsured companies, particularly for loss adjustment, (4) inadequate procedures to ensure accurate production guarantees, and (5) expanding the program too rapidly without taking sufficient measures to ensure its fiscal integrity. In 1983, 1985, and 1987, we criticized FCIC's standard reinsurance agreement for being too generous to the reinsured companies. In addition, we have noted that the Congress' provision of emergency loans and disaster payments has undercut FCIC's ability to increase program participation. All of these factors—including unusually adverse weather conditions—have contributed to FCIC's bleak financial condition. (See Bibliography of Related GAO Products.)

These deficiencies have contributed to the program's inability to meet many of the goals the Congress established for it in 1980. Of the major program goals, only that of increasing private sector involvement and widespread access have been realized. The program has been made available to most farmers across the nation and is now delivered primarily by the private sector. However, (1) program participation has remained lower than expected, (2) crop insurance has not replaced disaster payments or emergency loans as the primary method for delivering disaster assistance, and (3) the program has not been made actuarially sound,[1] including the setting aside of a reserve for catastrophic losses. Consequently, despite substantial involvement by commercial insurance companies, the government continues to bear most of the risk for excess program losses and spends substantial funds for ad hoc disaster assistance programs and emergency loans.

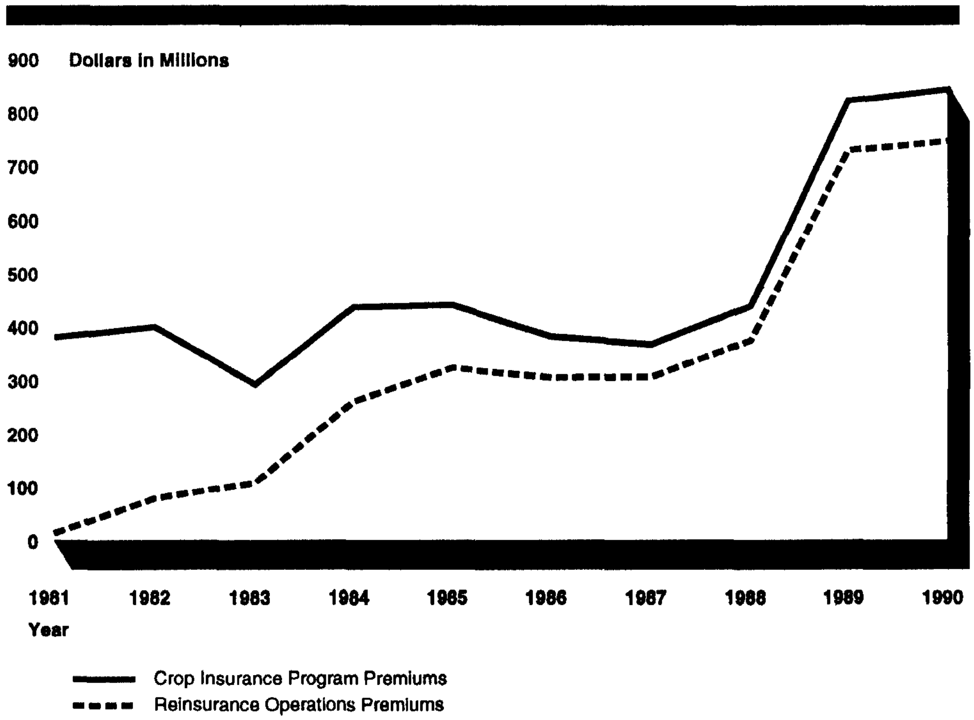
Private Sector Involvement and Widespread Availability Achieved

FCIC has achieved two objectives of the 1980 act—private insurance company involvement and widespread access to crop insurance. FCIC has succeeded in turning over delivery of the program to private insurance companies, predominantly through companies operating under the standard reinsurance agreement. These reinsured companies have sold an increasingly larger share of the multirisk crop insurance policies since FCIC's reinsurance program began in 1981. (See fig. 2.1.) From selling only about 3 percent of the total premiums in their first year, reinsured

[1] In this report, actuarial soundness refers to the ability of premium revenues, including federal premium subsidies, to offset the costs of indemnities over a period of years.

companies now dominate the industry, selling nearly 89 percent of policy premiums in 1990. Master marketers sold the balance of insurance premiums. Nevertheless, FCIC still retains substantial administrative responsibility for the program, providing actuarial and underwriting services for both reinsured companies and master marketers, and adjusting losses for the master marketers' policies.

Figure 2.1: Crop Insurance Program and Reinsurance Operations Premiums, 1981-90



In addition, FCIC has successfully expanded the availability of crop insurance to producers throughout the country between 1980 and 1990, from 30 to 51 crops and 39 to 50 states. This expansion increased the number of county program crops from 4,632 in 1980 to 21,373 in 1991. (See table 2.1.)

Table 2.1: FCIC Program Participation Trends, 1980-91

Category	Crop Year 1980	1981	1982
Number of county programs	4,632	5,969	14,498
Number of crops insured	30	30	29
Acres eligible[a]	273,889	282,333	280,046
Acres insured[a]	26,272	44,996	42,721
Participation rate (percent)	9.6	15.9	15.3

Crop Year								
1983	**1984**	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**
15,415	17,868	18,892	19,053	19,263	19,611	20,507	21,354	21,373
32	37	39	41	42	44	49	51	51
240,103	276,073	265,967	247,987	244,807	243,114	253,795	254,047	[b]
27,935	42,668	48,537	48,632	49,134	55,589	101,502	101,126	[b]
11.6	15.5	18.2	19.6	20.1	22.9	40.0[c]	39.8[c]	[b]

[a]In thousands.

[b]Data not available at report time.

[c]Many producers who participated in the 1988 or 1989 disaster assistance programs were required to purchase crop insurance the following crop year.

Source: GAO analysis of FCIC data.

This rapid expansion of the program came at considerable expense, however. We expressed concern about the program's rapid expansion in 1984, when we reported that FCIC was expanding the program without giving enough attention to whether the premiums it was charging were adequate to cover potential loss claims.[2] More recently, we reported that FCIC did not have appropriate internal controls for creating new crop insurance programs. For example, FCIC offered insurance for nonirrigated safflower in an area with a history of drought, so that it was unreasonable to expect the crop to grow.[3]

Program Participation Lower Than Expected

Although crop insurance participation has not achieved the House Committee on Agriculture's goal of 50 percent, participation has climbed gradually from 9.6 percent of eligible acres in 1980 to 22.9 percent in 1988. (See table 2.1.) A catastrophic drought in 1988, along with new provisions requiring the purchase of crop insurance as a condition for receiving disaster payments, pushed participation up to 40 percent of eligible acres in 1989. Continued widespread drought in 1989 and continued requirements to purchase crop insurance kept participation levels at nearly 40 percent in 1990.

[2] More Attention Needed in Key Areas of the Expanded Crop Insurance Program (GAO/RCED-84-65, Mar. 14, 1984).

[3] Crop Insurance: FCIC's Internal Controls on Safflower Coverage Must Be Improved (GAO/PEMD-91-27, July 15, 1991).

There are substantial differences in participation rates among states and crops. These differences are due to a variety of factors, including fluctuations in weather patterns, program promotion, and education efforts. Among major insurable crops, participation is highest for wheat and barley, which are grown in semiarid areas where the weather is often variable. Consequently, North Dakota and Montana are among the states with the highest participation rates.

There are various reasons for nonparticipation, including farmers' belief that premiums are too high relative to the amount of coverage offered and that the amount of coverage against risk offered by the policies is not sufficient. Also, some farmers prefer to self-insure through savings or reduce risk through crop diversification. We have also stated in several reports that the government's provision of ad hoc disaster payments and emergency loans discourages some farmers from participating. FCIC has studied reasons for nonparticipation in some localized markets but has not conducted a comprehensive, nationwide study to determine reasons for nonparticipation, as we recommended in 1988.[4]

Crop Insurance Not the Primary Method for Delivering Disaster Assistance

In part because of the relatively low participation rates in the crop insurance program, the Congress continued to provide disaster assistance to farmers during the 1980s through all three forms of assistance—insurance, direct payments, and loans. Between 1980 and 1990, the government incurred costs of approximately $25 billion for these programs. Despite the 1980 revisions to make crop insurance the preeminent means of providing agricultural disaster assistance, the federal government has since spent over $19 billion, or 76 percent of total disaster funds spent, in programs that are alternatives to federal crop insurance. Total costs for all three programs have generally increased throughout the decade. (See table 2.2.)

[4] Crop Insurance: Participation in and Costs Associated With the Federal Program (GAO/RCED-88-171BR, July 6, 1988).

Table 2.2: Government Costs for Agriculture Disaster Assistance Programs, 1980-90

Dollars in Thousands

	Fiscal Year		
Program	**1980**	**1981**	**1982**
Crop Insurance	$28,015	$426,925	$480,724
Disaster Payments[a]	303,352	1,422,363	337,390
Emergency Loans[b]	245,261	402,171	440,681
Total	**$576,628**	**$2,251,459**	**$1,258,795**

				Fiscal Year				
1983	**1984**	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**Total**
$345,865	$325,956	$462,696	$733,136	$562,470	$1,223,054	$811,292	$751,864	**$6,151,997**
127,897	26,979	17,795	16,610	824,193	114,203	4,012,104	1,659,607	**$8,862,493**
436,225	438,673	730,337	865,598	1,180,047	1,647,491	2,242,010	1,461,491	**$10,089,985**
$909,987	**$791,608**	**$1,210,828**	**$1,615,344**	**$2,566,710**	**$2,984,748**	**$7,065,406**	**$3,872,962**	**$25,104,475**

[a]Does not include administrative costs for 1980.

[b]Total administrative costs for 1980-81 not included. Administrative costs for those years only include money received from the revolving fund.

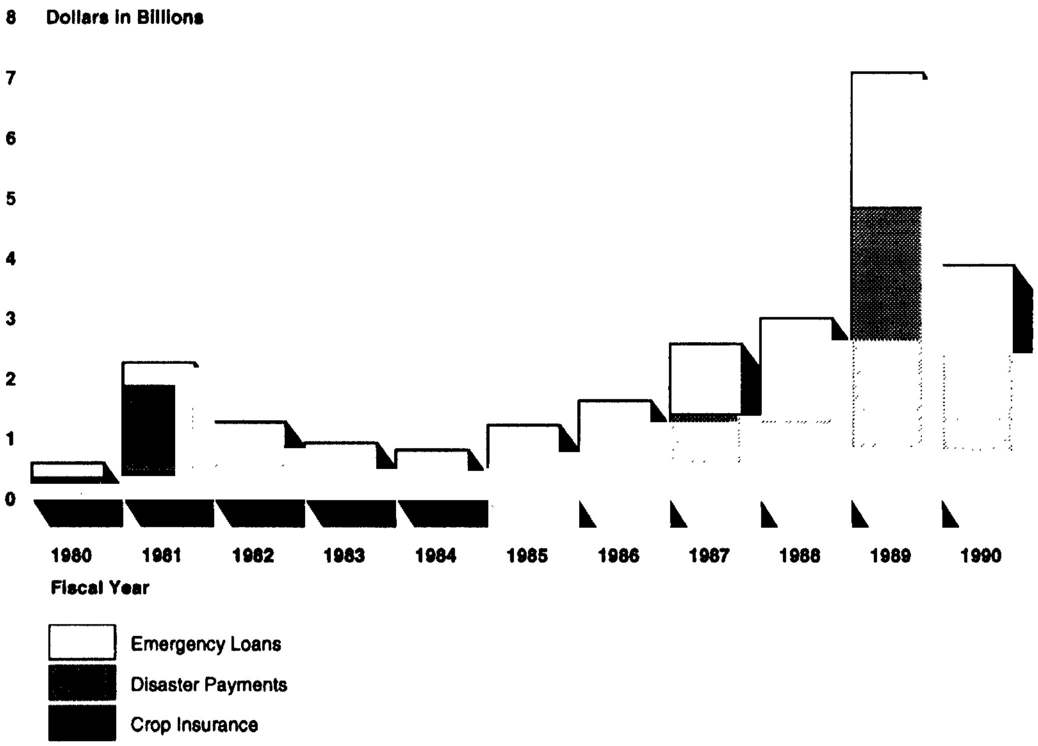
Note: These are actual government costs not adjusted for inflation.

Source: GAO analysis of USDA data.

Between 1980 and 1990, USDA incurred costs of approximately $6.2 billion to support crop insurance, with total government contributions increasing from $28 million in 1980 to over $1.2 billion in 1988. (See fig. 2.2.) USDA also spent about $8.9 billion in direct assistance payments to farmers, with expenditures reaching peaks in 1981 ($1.4 billion) and 1989 ($4.0 billion) as the result of especially severe droughts. (See app. II, table II.1.) USDA's costs for emergency loans, which totaled about $10.1 billion, also increased during the decade, from $245 million in 1980 to over $2.2 billion in 1989.[5] (See app. II, table II.2.) Most of the total costs have been due to interest subsidies and to rapidly increasing loan defaults leading to debt write-offs.

[5] FmHA, a credit agency of USDA, provides emergency loans at subsidized interest rates to eligible producers who have sustained actual losses as a result of natural disasters. These loans are made available in specific areas declared as disaster areas by the President, the Secretary of Agriculture, or the FmHA Administrator. Emergency loans provide farmers with direct assistance to cover actual losses so that they can return to normal farming operations. However, from 1975 to 1985, the emergency loan program was expanded to include loans for purposes other than actual losses, such as expanding farm operations. See Farmers Home Administration: Problems and Issues Facing the Emergency Loan Program (GAO/RCED-88-4, Nov. 30, 1987).

Figure 2.2: Government Costs for Agriculture Disaster Assistance Programs, 1980-90



Program Not Actuarially Sound

FCIC has not realized the 1980 congressional goal of establishing an actuarially sound crop insurance program. If the crop insurance program were actuarially sound, FCIC would accumulate cash reserves in years with few claims to pay for claims in years, such as 1988, when there was widespread disaster. Over time, the amount of indemnities FCIC paid on claims would be offset by premiums from customers and premium subsidies provided by the government.

As far back as 1982, we advised FCIC's Manager that the rapid expansion of the program might result in increased exposure to loss because insurance rates might be based on questionable actuarial assumptions and methodologies.[6] We noted that the Corporation had not performed the

[6] Concerns About the Actuarial Soundness of the Federal Crop Insurance Program (Letter to Manager, FCIC, Aug. 10, 1982).

research necessary to resolve long-standing concerns regarding the program's actuarial soundness or maintained normal review and evaluation activities. Our periodic financial audits since 1980—the latest completed in 1990—confirm that FCIC has not charged high enough premiums to achieve actuarial soundness. In fact, a recent FCIC report indicates that in almost 71 percent of FCIC's actuarial rating districts, premiums were below the rate needed to achieve actuarial soundness in 1992.

Because FCIC did not charge high enough premiums, the program has incurred a loss every year since 1980, and its $616 million loss for 1988 was the largest loss in its history. Thus, FCIC has not been able to establish the reserve against losses called for by the 1980 legislation. Consequently, the government has had to provide FCIC with about $3.3 billion in additional capital to keep the program operating.[7]

The soundness of the program varies by crop and by state. A 1989 consultant study[8] commissioned by FCIC concluded that, except for the effects of catastrophic drought in 1983 and 1988, 75 percent of the program in the 1980s performed reasonably well. The study attributed the majority of the noncatastrophic excess loss to "problem crops," particularly soybeans grown in the southeastern states. Similarly, an analysis by the American Association of Crop Insurers, using data for 1981 through 1987, determined that about 80 percent of the losses in excess of premiums occurred in 10 southeastern states that had a cumulative loss ratio of 201.[9] In contrast, the analysis identified 14 midwestern and western states with a cumulative loss ratio of 89 during the period. These 14 states accounted for 67 percent of the total crop insurance liability at the time.

[7] Crop insurance program costs, which are composed mainly of indemnity payments to policy holders to pay insurance claims and administrative costs, totaled over $9.2 billion between 1980 and 1990. (See app. II, table II.3.) To fund its program, FCIC has received about $10 billion from two sources—premiums paid by farmers and federal appropriations. Since 1980, FCIC has received a total of approximately $3.8 billion in producer premium payments and about $6.2 billion from federal appropriations. Federal appropriations were used to subsidize lower insurance premiums ($1.1 billion), pay for administrative expenses ($1.8 billion), and provide cash periodically (totaling $3.3 billion) to make up for funding shortfalls. (See app. II, table II.4.)

[8] Reforming Federal Crop Insurance: A New Approach to Risk Distribution, (Washington, D.C.: Nesterczuk and Associates, Dec. 15, 1989.)

[9] A loss ratio expresses the amount of indemnities as a percentage of premiums (including the federal premium subsidy). For example, a loss ratio of 150 means that claims paid exceeded premiums received by 50 percent.

Program Not Successful in Shifting Risk to Private Companies

To encourage the privatization of federal crop insurance and enhance its widespread availability, FCIC made federal reinsurance available to insurance companies. However, because federal crop insurance insures certain types of risks that commercial insurance would not handle, FCIC treats reinsurance differently and provides it on more generous terms than a commercial reinsurer would. Consequently, reinsured companies assumed only a very small portion of the financial risk associated with the federal crop insurance program between 1981 and 1990.

Under terms of standard reinsurance agreements in effect during the 1980s, FCIC assumed most of the crop insurance liability and incurred most of the underwriting losses for the program. Indeed, the companies realized small gains as the result of underwriting in the years when the policies they sold had large losses, which were borne almost entirely by FCIC. Increased risk bearing by reinsured companies is needed not just to reduce government costs for excess losses, but to provide companies with more incentive for diligent program management. FCIC's Manager notes, however, that companies will not assume greater risks without some competitive opportunity for net profit.

Reinsurance Strengthens Private Sector Ability to Deliver Federal Crop Insurance

FCIC made reinsurance available to insurance companies to encourage the privatization of federal crop insurance and enhance its widespread availability. A common practice in the private sector, reinsurance provides insurance companies with the capability to expand their capacity to provide insurance, sell insurance in limited geographic areas without worrying about the effect of localized disasters, and protect themselves against catastrophic losses. Reinsurance is, in effect, insurance for the insurance companies: It is a transaction in which one insurer agrees, for a premium, to assume all or part of the loss that the primary insurer may sustain under its insurance policies. Reinsurance companies generate large pools of money from all over the world to accommodate this risk.

FCIC's standard reinsurance agreements between 1981 and 1990 protected participating insurance companies through proportional and nonproportional reinsurance. Proportional reinsurance allows reinsured companies to increase the amount of insurance coverage they can write. Under this form of reinsurance, insurance companies and their reinsurers share specified portions of both the policy premiums collected and the indemnities paid. Thus, if an insurance company cedes 60 percent of its business to a reinsurance company, the company bears only 40 percent of the indemnities on the claims it adjusts. In return for receiving 60 percent of the policy premium, the reinsurance company must pay 60 percent of the indemnities paid by the insurance company.

Nonproportional reinsurance (also called stop-loss reinsurance) allows reinsured companies to protect themselves against payment for catastrophic losses. For a negotiated fee, the reinsurance company agrees to reimburse the insurance company for all indemnity payments above a predetermined amount. Stop-loss reinsurance protects an insurance company from financial ruin if catastrophic losses occur.

Previous Standard Reinsurance Agreements

Under several reinsurance agreements in the recent past, reinsured companies could transfer or cede a portion of their business to FCIC through a number of proportional reinsurance provisions referred to as assigned risk, quota share, surplus share, and portfolio exchange.[1] Each contained different ceding limits and other requirements, but basically each provision allowed companies to group or categorize their business into separate risk pools and to make ceding decisions about each pool. These proportional reinsurance provisions afforded a participating company some flexibility in tailoring its crop insurance portfolio to the level of risk it was willing to retain.

The portion of business that the reinsured companies did not cede to FCIC was then eligible for nonproportional reinsurance through two provisions, known as state stop-loss and national stop-loss. As their names imply, both provisions limited the amount of losses reinsured companies could experience on the business they kept. Under the state stop-loss provision, the company's losses were limited on a state-by-state basis, with FCIC providing progressively higher protection at progressively higher loss ratios above 100.

If reinsured companies still had a net underwriting loss after FCIC added together state losses (after stop-loss) and gains, FCIC would then apply national stop-loss to further reduce the losses. However, if there was a net underwriting gain, FCIC and the reinsured company would share proportionally in the gain. FCIC took a progressively higher share of the gain

[1] Under the 1986-89 standard reinsurance agreements' assigned-risk provisions, companies might cede up to 95 percent of their premium and liability for losses for designated policies (generally the highest-risk policies) to FCIC. Quota share requires companies to cede 5 percent of their remaining premium and liability for losses to FCIC. Under the surplus share provision, companies designate an amount of premium and then cede to FCIC 80 percent of all premium and associated liability above the designated amount. Under portfolio exchange, companies with business concentrated in three or fewer states may exchange a portion of their business with FCIC, thereby spreading the companies' risk across all states where FCIC provides insurance.

as the level of gain increased. In our reviews of FCIC's standard reinsurance agreements in 1983, 1985, and 1987, we generally found that the agreements' gain- and loss-sharing provisions generally favored the reinsured companies.[2]

Reinsured companies often further reduced their risk by purchasing commercially offered reinsurance. The degree to which companies obtained this additional protection depended on their financial ability to bear risk.

To Accommodate Policy Goals, FCIC Reinsurance Differs From Private Reinsurance

FCIC treats reinsurance differently than do commercial reinsurers because federal crop insurance insures certain types of risks that commercial insurance would not handle. For example, all farmers are entitled to purchase crop insurance if insurance for their crop is offered.[3] In contrast, insurance companies, using the underwriting process to differentiate among customers on the basis of risk, choose whether to insure that risk. Consequently, federal crop insurance is likely to provide insurance to a higher proportion of high-risk individuals than would be feasible under commercial insurance.

Also, federal crop insurance may be more likely than commercial insurance to suffer losses because of actions taken by individuals who have purchased insurance. In federal crop insurance, an insured farmer receives an indemnity payment for a loss of yield as a result of unavoidable causes. However, because the insurer faces difficulties in determining the precise cause of crop loss, an insured producer may be able to influence the probability or magnitude of loss.

In addition, multirisk crop insurance is prone to catastrophic losses. Natural hazards such as droughts tend to affect large numbers of farms at one time, and neighboring farms are likely to be similarly affected. From an insurance standpoint, this interdependence makes the probability of large catastrophic losses much higher than in many other types of insurance.

[2] We have noted persistent problems with FCIC's standard reinsurance agreements. See Crop Insurance: Federal Crop Insurance Corporation Needs to Improve Decision-Making (GAO/RCED-87-77, July 23, 1987), Information on the Federal Crop Insurance Corporation's 1986 Standard Reinsurance Agreement (GAO/RCED-85-155, July 26, 1985), and Information on the Federal Crop Insurance Corporation's 1983 Standard Reinsurance Agreement (GAO/RCED-83-114, March 9, 1983).

[3] There are some minor exceptions. For example, farmers who have not paid their premiums in the past and farmers producing commodities on converted wetlands can be excluded.

Because of these factors, FCIC has experienced large program losses that have not been shared proportionally with the reinsured companies. No private sector reinsurer would be willing or able to continue to reinsure under these conditions. Both parties would have to operate profitably for the relationship to continue. Consequently, FCIC's relationship with its reinsured companies differs substantially from commercial reinsurance arrangements—in how FCIC enters into reinsurance agreements with private companies, underwriting responsibilities are apportioned, the prices and terms of insurance policies are set, and losses are allocated.

For example, unlike private reinsurance arrangements, all insurance companies participating in the federal crop insurance program must adhere to the same reinsurance agreement. In drafting the terms of the agreement, FCIC attempts to balance the government's interest in a cost-effective arrangement with the need to make the arrangement attractive enough to encourage the participation of the insurance companies. FCIC does not directly negotiate the terms of the agreement with the insurance companies. Instead, it consults with the insurance industry to determine what terms and conditions would be acceptable. Consequently, the terms and conditions, in effect, represent a compromise between the federal government's interests and the interests of reinsured companies, which vary according to where these companies operate.

In contrast, private reinsurance—including the reinsurance that crop insurance companies purchase commercially—does not operate under a standard agreement. Each agreement results from negotiations between the parties involved. No two private reinsurance contracts are alike; all vary with the amount of risk retention and the amount of coverage provided.

Underwriting responsibilities also differ substantially between federal crop insurance and commercial insurance. In federal crop insurance, FCIC performs most of the underwriting functions that would normally be performed by the companies selling the insurance policies. FCIC's underwriting responsibilities include determining the prices and conditions for all policies, the risks and crops covered, the amount FCIC will pay for losses, when and where policies may be sold, and loss adjustment standards and procedures. In the private sector, insurance companies would normally perform these functions—under state regulation—and then negotiate reinsurance arrangements to increase capacity and spread risk. Also, companies reinsured by FCIC have less concern about whom they sell policies to than they would under commercial insurance because FCIC's reinsurance agreements require the companies to pay very little of the indemnity associated with the riskiest policies. Because the government bears so much risk under the reinsurance agreements, FCIC must retain the underwriting responsibilities to protect the government's financial interests.

Also, under the terms of the reinsurance agreement, FCIC charges a pro rata reinsurance fee (based on premium volume) to all companies without regard to the reinsured companies' losses or the relative risk of the policies being reinsured. In private sector reinsurance, the insurance company and the reinsurer negotiate the price of the reinsurance coverage on a case-by-case basis. The price for commercial reinsurance is determined by market conditions, including the availability of reinsurance funds, the demand for reinsurance, previous loss experience, and the company's overall performance.

Reinsurance Agreements Have Limited Companies' Underwriting Losses

From 1986 to 1990, reinsured companies so minimized their losses that they earned gains even in years of huge program losses.[4] This occurred because the reinsured companies' potential for losses—always less than 2 percent of the total risk of loss in the reinsured portion of the program—was very low compared with FCIC's potential for losses.

In allocating losses between FCIC and the reinsured companies, FCIC bore (1) 100 percent of losses that resulted from policies sold by the master marketers, (2) 100 percent of losses that resulted from the business ceded to it by the reinsured companies under proportional reinsurance, and (3) a portion of the losses on the business retained by the reinsured companies. The amount FCIC bore was determined by the stop-loss reinsurance provisions and varied depending on the severity of losses. Between 1986 through 1990, FCIC bore 100 percent of all losses above a loss ratio of 156.5 on a national basis. In contrast, the maximum possible loss faced by the reinsured companies was determined by the indemnities they would have paid before stop-loss was applied to their retained business. The following discussion illustrates this difference.

[4]In this context "underwriting losses" refers to the amount that indemnities paid to producers exceed the premiums paid by producers and the government. The government's total program costs include not only these losses but also the government's portion of the premiums, FCIC's operating expenses, and the administrative fees paid to companies.

One common way to compare the amount of risk borne by FCIC and the reinsured companies is a measure called maximum probable loss, which assesses the losses each party would have under an assumed worst-case scenario. For this example, we assume a worst-case loss ratio of 350. Noting that FCIC's worst loss ratio was 241 in 1988, we selected 350 in keeping with the common industry practice of formulating a maximum probable loss ratio by adding an additional margin of loss to an historically large loss ratio.

The analysis shown in table 3.1 for 1986 assumes a maximum probable loss of $762 million[5] out of about $4.7 billion of total liability. In 1986, the reinsured companies' maximum probable loss on its retained business totaled $416 million. After applying stop-loss, company losses were reduced to $17 million, which equaled 2.2 percent of the reinsurance program's maximum probable loss. From 1986 to 1990, the reinsured companies share of maximum probable losses ranged between 2.0 and 2.3 percent, with FCIC responsible for the balance of losses. Figure 3.1 compares FCIC's and the reinsured companies' maximum probable loss from 1986 to 1990.

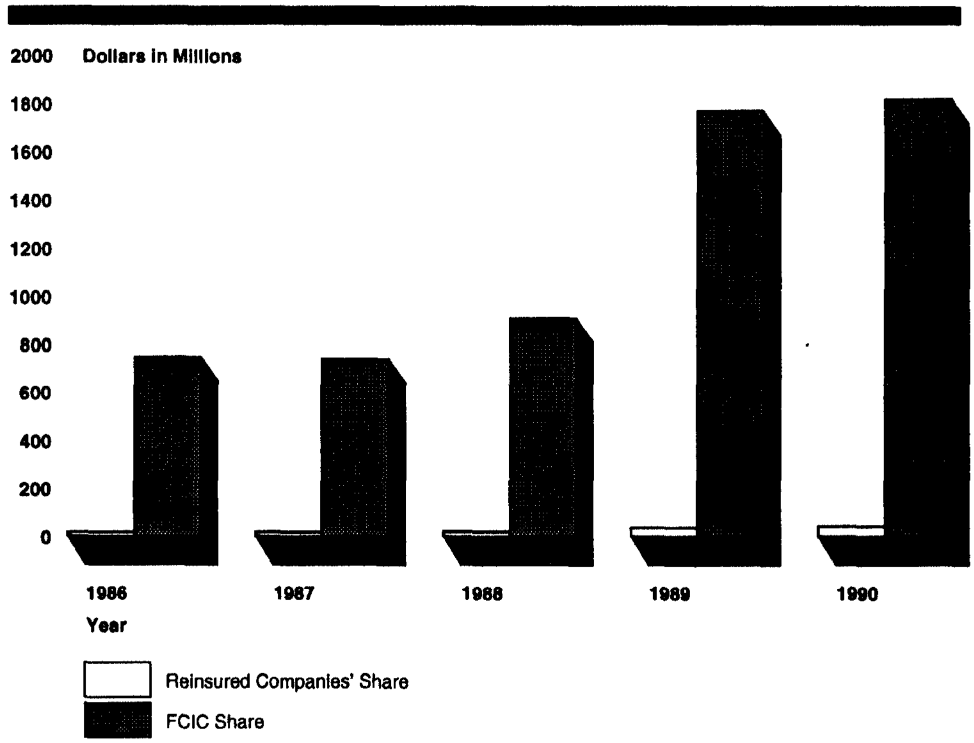
Table 3.1: Maximum Probable Loss, 1986-90

Dollars in millions

	1986	1987	1988	1989	1990
Program's total reinsurance liability	$4,749	$4,798	$5,620	$11,507	$10,757
Program's maximum probable loss (based on 350 loss ratio)	762	755	930	1,804	1,858
Companies' maximum probable loss before stop-loss	416	432	483	882	1,019
Companies' maximum probable loss after stop-loss	17	17	19	35	41
As a percent of program's maximum probable loss	2.2%	2.3%	2.1%	2.0%	2.2%

[5] Calculated as follows: (1) total premiums ($304,967) x maximum probable loss ratio (3.5) = total indemnities ($1,067,385). (2) total indemnities ($1,067,385) - total premiums ($304,967) = underwriting losses ($762,418).

Figure 3.1: Maximum Probable Loss, 1986-90



Notes: Includes reinsurance operations only. Assumes maximum probable loss on reinsurance operations of $1.858 billion and loss ratio of 350.

Source: GAO analysis of FCIC data.

As a result of limited risk sharing, FCIC's reinsurance agreements allowed reinsured companies to earn underwriting gains in years when the overall program had underwriting losses or to experience losses of a much smaller magnitude than the overall program. Each year since the reinsurance program began in 1981, FCIC has experienced net underwriting losses on its multirisk policies. It has lost over $2.3 billion since then—in excess of the federal government's administrative and premium subsidy—resulting in a cumulative loss ratio of 148. Yet the reinsured companies had underwriting gains in 7 of those 10 years, contributing to an overall net underwriting gain of about $101 million. (See table 3.2.)

Table 3.2: Program and Reinsured Company Financial Performance, 1981-90

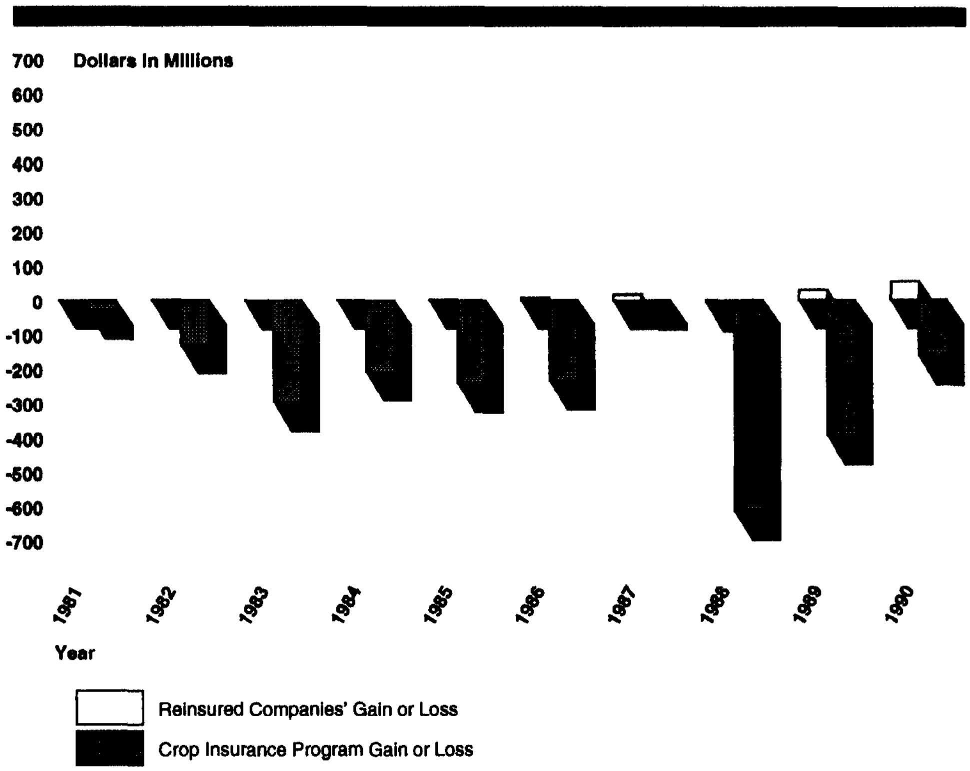
Dollars in millions

	Total program		Reinsurance program	Reinsured companies
Program year	**Loss ratio**	**Gain or (loss)**	**Gain or (loss)**	**Gain or (loss)**
1981	108	($28.9)	$3.5	$0.3
1982	132	(129.5)	8.3	2.6
1983	202	(296.3)	(75.7)	(2.4)
1984	147	(207.1)	(121.2)	(0.4)
1985	155	(242.7)	(156.8)	3.3
1986	162	(234.5)	(189.8)	8.0
1987	101	(2.5)	1.0	16.7
1988	241	(616.1)	(532.7)	(8.0)
1989	148	(395.0)	(370.0)	28.4
1990	119	(163.8)	(97.1)	52.9
Total	**148**	**($2,316.4)**	**($1,530.4)**	**$101.4**

Note: Excludes funds the government spends for premium subsidies and reimbursing companies for administrative expenses

When reinsured companies did experience losses, they were generally relatively small. In the worst year (1988), the companies lost about $8 million while the federal government lost about $616 million. The companies' loss amounted to about 4 percent of retained premiums while the government's loss amounted to about 141 percent of total premiums. The companies' losses as a percentage of total liability amounted to about one-tenth of 1 percent while the government's losses amounted to about 9 percent of total liability. Thus, when viewed from an historical perspective, the companies' absolute exposure to loss and their exposure relative to the government's exposure has been very small. By the same token, the companies' underwriting gains from their crop insurance business has also been low. As shown in figure 3.2, the reinsured companies generally made relatively small underwriting gains or losses in contrast to FCIC's pattern of recurring high losses.

Figure 3.2: Comparison of FCIC's and Reinsured Companies' Gains and Losses, 1981-90



Source: GAO analysis of FCIC data.

Stop-Loss Provisions Primarily Responsible for Limiting Losses

Of the two types of reinsurance—proportional and nonproportional—FCIC provided during the period, the nonproportional or stop-loss reinsurance provisions were primarily responsible for limiting the reinsured companies' losses. Stop-loss provisions also allowed reinsured companies to earn gains when they otherwise would have had losses. The effectiveness of the stop-loss reinsurance provision in reducing the loss ratios on the reinsured companies' retained business was most clear in 1988 when stop-loss brought the loss ratio on their retained business from 261 down to 102. (See table 3.3.) In the 5 years from 1986 through 1990, stop-loss either brought a large loss down to a small loss (1988), turned losses into gains (1986, 1989, and 1990), or increased the size of the gains realized (1987). Proportional reinsurance also resulted in some reductions in losses in 4 of the 5 years.[6]

[6] In 1988 the companies' ceding decisions resulted in their retained business having a higher loss ratio than the overall program before stop-loss was applied. But a severe loss was reduced to a small loss once FCIC applied the stop-loss provisions, which is the function of catastrophic reinsurance.

Table 3.3: Effect of Reinsurance on Reinsured Companies' Loss Ratios, 1986-90

	Loss Ratios				
Reinsurance stages	**1986**	**1987**	**1988**	**1989**	**1990**
Gross business	163	100	243	150	113
Retained business (after proportional reinsurance)	140	85	261	119	85
Net (after proportional reinsurance and stop-loss)	87	64	102	84	63

In their decisions to retain or cede policies, insurance companies used the reinsurance agreement to limit their losses. For example, in 1990 one company sold policies with a total liability of about $1.3 billion, with associated premiums of $92 million. As the result of its ceding decision to FCIC, the company ceded $47 million of premium and associated liability to FCIC under proportional reinsurance, retaining the remaining $45 million of business.

At the end of the season, the company paid indemnities to producers equaling $108 million, resulting in an underwriting loss of $16 million on its entire business, for a loss ratio of 118. However, the company was only liable for paying claims on the $45 million portion of the business that it retained. On this portion, the company paid indemnities of $45.3 million, for a loss ratio of 101. The company had improved its position considerably by using proportional insurance.

Stop-loss provisions further reduced the company's losses to $32.4 million, for a loss ratio of 72. Under the terms of the standard reinsurance agreement, FCIC added together the premiums retained in each state and the indemnities retained after state stop-loss to arrive at a national total of retained premiums and indemnities. FCIC subtracted the retained indemnities from the retained premiums to arrive at a gain for the company. FCIC then applied the gain-sharing provisions to determine the portion of the gain to be retained by the company. Using this methodology, the company was able to realize a $4.5 million gain from crop insurance business that resulted in a $16 million loss to the overall program.

Risk Bearing by Insurance Companies Is Important for Program Integrity

While increased risk bearing on the part of reinsured companies would reduce the government's cost for federal crop insurance, it could also help ensure program integrity. Risk bearing provides reinsured companies with incentives to follow program rules and act diligently to keep program costs down. For example, companies would have greater incentive to adjust losses accurately, submit accurate acreage reports, and provide FCIC with accurate data (among other administrative functions) if their income from the program depended more on how well the program was administered.

The minimum amount of risk borne by reinsured companies may not have provided sufficient incentives for diligent management between 1981 and 1990. For example, in recent years companies could place 10 to 20 percent of their business in an assigned risk pool, under which they bore minimal risk. Nevertheless, the companies adjusted all claims for these policies, claims that FCIC was obligated to pay. In 1987 and 1989, we reported that FCIC was losing millions of dollars through the poor loss adjustment practices of reinsured companies.[7] Because incentives for ensuring prudent management may be lacking, FCIC has had to significantly increase its compliance activities to ensure program integrity. FCIC's Manager said that because of continuing problems, even more efforts to combat program fraud will be necessary in the future.

Risk bearing is also important because, in addition to bearing the cost of its own operation, FCIC provided the reinsured companies with an expense reimbursement to cover the administrative and operating expenses associated with selling and servicing the multirisk policies. This administrative expense reimbursement—based on the percentage of premiums sold—represented a significantly larger source of revenue for the reinsured companies than did their underwriting gains. In 1990, the reinsured companies received $267 million in administrative expense reimbursements and made $53 million in total underwriting gains on multirisk premiums of $746 million. The reimbursement rate is based on a percentage of the gross premiums sold and has been 34 percent since 1988.[8]

The large amount of revenue generated by the administrative fee compared to the small potential for an underwriting gain could provide incentives to emphasize the quantity of business over the soundness of business. For example, an insurance company could discreetly compete with other companies for business by offering more liberal loss adjustment. Under the agreements in place during the 1980s, companies in some instances could come out ahead if the losses on the riskier policies

[7] Crop Insurance: Private Company Loss Adjustment Improving, but Overpayments Still High (GAO/RCED-90-32, Nov. 7, 1989) and Crop Insurance: Overpayment of Claims by Private Companies Costs the Government Millions (GAO/RCED-88-7, Nov. 20, 1987).

[8] FCIC has had special reimbursement rates in some years for items such as excessive claims or state premium taxes paid. FCIC also reduced the basic rate for policies sold to producers who were required to buy crop insurance after receiving disaster assistance payments in 1988.

they sold (which are minimized by stop-loss and assigned risk protection) did not exceed the 34-percent administrative fee—net of actual administrative costs—that FCIC paid them for the additional business.

1992 Standard Reinsurance Agreement Will Increase Risk Borne by Reinsured Companies

FCIC's 1992 standard reinsurance agreement meets the congressional mandate to increase the amount of risk borne by reinsured companies. The agreement increases the companies' overall risk of incurring losses and requires companies to risk more losses to earn gains. The agreement does this by requiring companies to retain a larger amount of the risk associated with the policies they write and by changing the accounting system used to determine overall gains and losses. The Congress did not establish a target for the amount of risk the reinsured companies should bear, and we do not take a position on that issue in this report.

Despite these changes, the amount of risk retained by the companies will remain limited compared with the liability assumed by the government under the reinsurance agreement. Reinsured companies will have neither the capability nor the incentive to assume greater amounts of risk until losses are reduced and significant program changes are made.

1990 Reforms Focused on Reducing Government Risk

As a result of persistent problems and high costs in the delivery of disaster assistance to farmers, crop insurance reform was one of the major focuses in the development of the 1990 farm bill. Congressional and administration officials, however, had difficulty designing a crop insurance program that would have high participation, eliminate the need for expensive ad hoc legislation, and stay within the baseline fiscal year 1991 budget estimate of $850 million.

During the debate, the administration proposed eliminating the crop insurance program and replacing it with a permanent disaster assistance program. Congressional proposals included (1) providing free catastrophic protection for all farmers and allowing them to purchase a federally subsidized crop insurance policy to cover additional production; (2) subsidizing producer premiums through a voucher system, requiring private crop insurance companies to bear all risk of loss, and offering federal catastrophic reinsurance; and (3) revising the current program by increasing the subsidy level on the highest level of coverage and providing catastrophic protection only for those who purchase crop insurance. Each of these proposals, as well as several others that were discussed but never introduced as legislation, were generally either too expensive or would not have sufficient participation to forestall an ad hoc disaster program. Consequently, the Congress and the administration agreed to more modest reforms.

The 1990 farm bill reforms focus on improving the financial condition of federal crop insurance. Most importantly, FCIC was directed to revise its reinsurance agreements so that the reinsured companies bore an increased share of any potential loss under such agreements, taking into consideration the financial conditions of the reinsured companies and the availability of private reinsurance.[1] In addition, FCIC was directed to improve its actuarial soundness by raising rates up to 20 percent annually where necessary.[2] Recognizing that these reforms were only an interim measure, the 1990 farm bill conference report states:

"The managers intend that the crop insurance provisions in the Act do not represent an answer to the problems facing federal crop insurance. A more fundamental restructuring of the existing program is needed to prevent the continued financial losses, low participation rates, and other inefficiencies that have plagued this program and required the enactment of repeated ad hoc disaster bills during the 1980s."

Consequently, some observers believe that crop insurance reform will again become a major congressional legislative issue in the near future.

Insurance Companies Will Bear More Risk Under 1992 Agreement

FCIC has increased the risk borne by reinsured companies in its most recent revisions to the standard reinsurance agreement. This agreement—which creates three reinsurance funds for different levels of risk—(1) requires companies to retain a higher proportion of risk, (2) reduces the level of stop-loss protection offered, (3) requires companies to risk more losses to earn gains, and (4) decreases the ratio of potential gains to potential losses, thereby more closely reflecting the companies' overall experience. Overall, we believe that the agreement will increase the potential for companies to incur losses and require companies to risk more losses to earn gains.

[1] Other important changes include offering new types of insurance policies to enhance participation, requiring the provision of Social Security numbers to mitigate program abuse, and permitting insurance companies to offer supplemental coverage policies at actuarially sound rates.

[2] Also, the conferees of the 1991 agriculture appropriations act (Rural Development, Agriculture, and Related Agencies Appropriation Bill, P.L. 101-506, Nov. 5, 1990) indicated that the crop insurance program should continue as long as it is at least 75 percent actuarially sound and that the program should be returned to the control of the Agricultural Stabilization and Conservation Service for sales and loss adjustments. The conferees did not specify if the 75-percent determination was to be made on the basis of policies or coverage in force, nor did they define what conditions were required for actuarial soundness.

Three Reinsurance Funds Created

In response to the farm bill mandate to increase the amount of risk borne by private companies, FCIC revised its standard reinsurance agreement on May 24, 1991 (effective July 1, 1991).[3] To better distinguish among different kinds of business, the agreement establishes three reinsurance funds with commensurate requirements for the amount of risk companies can cede back to FCIC: assigned risk, developmental, and commercial. FCIC created the assigned risk fund for the riskiest policies. Under the agreement, reinsured companies may include individual policies in this fund up to limits established for each state. The maximum amount of business that can be allocated to this fund varies from 20 percent in some states (Illinois, Indiana, and Iowa, for example) to 75 percent in others (Arkansas, Louisiana, and Texas, for example). Companies must cede 80 percent of these policies' premiums to FCIC and retain 20 percent of the liability for indemnity payments.

Reinsured companies may use the developmental fund for policies that have the potential to be profitable but may not yet be actuarially sound. Companies must designate policies to the fund by crop or county, but not by both within each state. The percentage of risk a company retains must be designated before the start of the reinsurance year through the company's plan of operations—a document filed with FCIC to outline the company's business intentions for the upcoming year. Companies must retain at least 35 percent of the liability for indemnity payments on policies in this fund and cede a commensurate amount of premium to FCIC. There is no limit to the amount of business that can be placed in this fund.

Companies are expected to place their best business in each state in the commercial fund. Like the developmental fund, the commercial fund has no limit on the amount of business that can be placed in it. The minimum risk-retention rate for each state is 50 percent. Companies can use this fund—and retain up to 100 percent of the risk—to maximize their gain-sharing opportunities.

The new agreement also slightly lowers the administrative expense reimbursement reinsured companies will receive in 1992. FCIC will pay expense reimbursements equal to 33 percent of the insurance company's gross premium—the premium paid by the producer plus the premium

[3] FCIC's initial draft proposal, issued on Feb. 15, 1991, would have transformed FCIC into a catastrophic reinsurer over a 5-year period, but insurance companies objected to the amount of risk they would have to bear under this agreement. FCIC issued a different proposal on May 2, 1991, which the insurance companies also opposed because, among other problems, it did not provide enough protection from large losses or provide them with enough opportunity to achieve underwriting gains.

subsidy paid by FCIC—on all eligible policies. This marks a reduction from 34 percent, which FCIC has paid since 1988.[4]

Companies Must Retain a Higher Proportion of Risk

Reinsured companies will not be able to cede as much liability to FCIC under proportional reinsurance under the 1992 agreement as they previously could. After making its proportional reinsurance decisions, a company must retain responsibility for the risk of indemnity payments associated with at least 35 percent of the premium it sold. That is, the companies cannot cede more than 65 percent of their liability to FCIC. FCIC required companies to keep only 30 percent in 1990 and 1991. (See table 4.1.) FCIC allows an exception for companies that place more than 50 percent of their business in the assigned risk fund. These companies only have to retain responsibility for paying indemnities on at least 22.5 percent of their gross business. According to FCIC officials, FCIC made this exception to encourage participation among smaller, regional companies that operate in states that have had high loss experiences.

Table 4.1: Policy Retention Levels for Reinsurance Agreements, 1990-92

Levels in percent

Year	Minimum retained company's share	FCIC's share
1990	30	70
1991	30	70
1992	35	65

In addition, the 1992 standard reinsurance agreement—because it established three risk funds—emphasizes the need for companies to designate the amount of risk retention they wish to bear before the policies are sold. This requirement by itself may not significantly affect the overall amount of risk borne by the companies, but companies will earn profits or incur losses according to their ability to make these designations. FCIC will benefit from this requirement because the companies' selections will help classify FCIC's problem business, according to FCIC officials.

[4] To partially offset the reduced expense reimbursement, FCIC will offer extra reimbursement for adjusting losses on assigned risk policies. When the assigned risk fund loss ratio exceeds 150, FCIC will pay the companies 0.01 percent of the total fund premiums for every point above 150. For example, a company with an assigned risk loss ratio of 200 would receive an excess expense reimbursement of 0.50 percent. This reimbursement—provided on a state-by-state basis—is capped at 1 percent of the assigned risk fund's policy premiums.

Level of Stop-Loss Protection Reduced

By limiting the amount of stop-loss protection offered, the 1992 agreement increases the amount of risk borne by those reinsured companies willing to place substantial parts of their business in the commercial and developmental funds. (See table 4.2.) Companies retaining risk on policies in the commercial and developmental funds will be liable for 30 and 15 percent, respectively, of indemnity claims for loss ratios between 100.01 and 140.00, the range in which losses are most likely to occur. Under the 1991 standard reinsurance agreement, companies were liable for only 15 percent or 7.5 percent of losses, depending on the amount of risk they wished to retain. In addition, reinsured companies will share in a larger percentage of losses on policies placed in the commercial fund than required under 1991 reinsurance provisions, with the exception of indemnity claims in the loss ratio range between 140.01 and 200.00 (for companies liable for 15 percent of the losses.) Consequently, companies seeking to achieve higher gains will have to risk higher losses under the 1992 agreement.

Table 4.2: Reinsured Companies' Share of Losses

Shares in percent

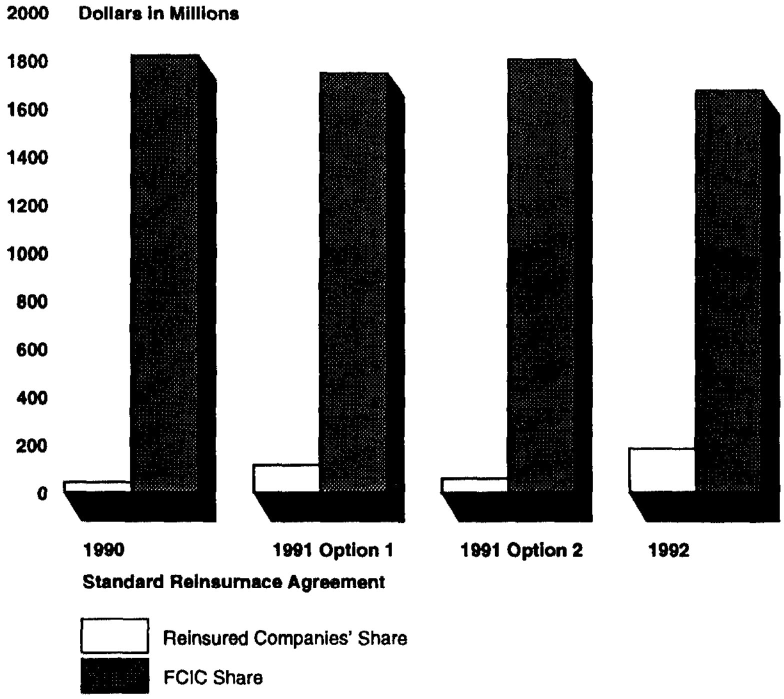
Loss ratio	1991 Share		1992 Share		
	Option 1	Option 2	Assigned risk fund	Developmental fund	Commercial fund
100.01-140.00	15.0	7.5	5.0	15.0	30.0
140.01-200.00	15.0	7.5	2.5	7.5	15.0
200.01-300.00	10.0	5.0	2.5	7.5	15.0
300.01-500.00	5.0	2.5	1.5	5.0	10.0
Over 500.00	0.0	0.0	0.0	0.0	0.0

Higher risk retention and lower stop-loss protection increase the amount of losses reinsured companies could incur under the 1992 agreement. An analysis of maximum probable loss shows that reinsured companies may bear more of the risk of loss under the 1992 agreement.[5] (See figure 4.1.) Out of a maximum probable loss of about $1.9 billion, reinsured

[5] All calculations assume $10.76 billion in total reinsurance liability, which was the actual amount for 1990, and a 1992 allocation rate of 23, 21, and 56 percent to the assigned risk, developmental, and commercial funds, respectively. This analysis also assumes a retention rate of 55 percent in 1990 and 1991, and 20, 35, and 100 percent in the assigned risk, developmental, and commercial funds, respectively, in 1992. Calculations do not include policies sold by master marketers and the fixed reinsurance premiums charged to the companies by FCIC for stop-loss protection in 1991 and 1992.

companies could lose as much as $184 million (9.9 percent) in 1992,[6] $112 million (6.0 percent) in 1991 under option 1 and $56 million (3.0 percent) under option 2, and $41 million (2.2 percent) in 1990. The analysis assumes a maximum probable loss of $1.9 out of about $10.8 billion of total liability—a loss ratio of 350. FCIC's worst loss ratio was 241 in 1988. Other assumptions, in which reinsured companies placed more of their business in the assigned risk and developmental funds or chose to retain less risk under the commercial fund, would show a lower maximum probable loss for reinsured companies under the 1992 agreement.

Figure 4.1: Maximum Probable Loss Under Selected Reinsurance Agreements



Notes: Includes reinsurance operations only. Assumes maximum probable loss on reinsurance operations of $1.858 billion and loss ratio of 350.

[6] Individually, the loss would be $2.3 million (0.5 percent) under the assigned risk fund, $11.2 million (2.9 percent) under the developmental fund, and $170.7 million (16.4 percent) under the commercial fund.

Companies Must Take Greater Risks to Earn Gains

Under the 1990 and 1989 standard reinsurance agreements, insurance companies were able to realize substantial underwriting gains of $52.9 million (in 1990) and $28.4 million (in 1989) while FCIC absorbed large losses. To counteract this trend, the 1992 agreement requires companies to take more financial risks to earn underwriting gains. Changes in gain sharing are the most significant way the 1992 agreement increases the risk borne by companies, according to FCIC's Manager.

The most significant gain-sharing change is the method used to calculate gains. Under several previous agreements, companies were able to achieve gains while the government absorbed a loss. To calculate a company's overall gains and losses, FCIC added together the premiums retained in each state and the indemnities retained after state stop-loss to arrive at a national total of retained premiums and indemnities. Then FCIC subtracted the retained indemnities from the retained premiums to determine whether the company had a gain or loss. FCIC would then apply gain-sharing or national stop-loss provisions, as appropriate, to determine the portion of gain or loss the company would retain.

Under the 1992 agreement, FCIC will add together the gains or losses a company retains in each state after applying gain-sharing or stop-loss provisions, as appropriate, to arrive at a national gain or loss. By decreasing the amount of premiums that can offset indemnities, this change will limit the amount of gain a company can receive. We believe that the change will also oblige reinsured companies to pay closer attention to problems with their business in their worst-performing states.

The 1992 agreement also lowers the share of gains realized on the companies' retained business. Under nonproportional reinsurance, FCIC shares in both gains and losses with the reinsured companies. The agreement decreases the reinsured companies' share of gains at the highest and most probable loss experiences. (See table 4.3.) In 1991, companies could keep all of their gains for loss ratios between 99.99 and 90.00. In 1992, however, companies can keep only 85 percent in the commercial fund, 42.5 percent in the developmental fund, and 15 percent in the assigned risk fund. However, to the extent that companies are willing to risk losses by placing more premiums in the commercial fund, they can earn more gains than they did under the 1991 agreement.

Table 4.3: Reinsured Companies' Share of Gains

Shares in percent

	1991 Share		1992 Share		
Loss ratio	**Option 1**	**Option 2**	**Assigned risk fund**	**Developmental fund**	**Commercial fund**
99.99-90.00	100.0	100.0	15.0	42.5	85.0
89.99-85.00	20.0	10.0	15.0	42.5	85.0
84.99-80.00	20.0	10.0	7.5	25.0	50.0
79.99-70.00	10.0	10.0	7.5	25.0	50.0
69.99-00.00	10.0	10.0	1.5	5.0	10.0

FCIC has also limited the amount of profits a company can collect in one year. Under the agreement, FCIC plans to place all of a company's gains that exceed 10 percent of total retained premiums in reserve.[7] These funds will be released in subsequent years when the company fails to achieve a 10-percent underwriting gain. However, companies will be limited to a 10-percent gain every year. For example, if a company earned a $1 million gain on total retained premiums of $20 million and it has $1.5 million in its reserve account, the company's actual cash profits are limited to $2 million—calculated at 10 percent of $20 million. The company would receive a total gain distribution of $2 million—$1 million in gains plus $1 million from reserves.

Ratio of Potential Gains to Potential Losses Decreased

By reducing the percentage of underwriting gains a company can earn and increasing the amount of losses a company can incur, FCIC has made participating in the program riskier for reinsured companies. In 1990, reinsured companies had the potential to earn one dollar of gain for every dollar they could lose. In 1991, reinsured companies could earn only 55 cents under option 1 and 78 cents under option 2 for every dollar they could lose. And under the 1992 agreement, the potential gain compared with the potential loss of one dollar is 34 cents under the assigned risk fund, 44 cents under the developmental fund, and 46 cents under the commercial fund.[8]

Because the incentives provided under the 1992 agreement differ greatly from previous reinsurance agreements, it is not possible to know

[7] The 10-percent cap on earnings distributions is based on the portion of underwriting gains in excess of the 1-percent stop-loss reinsurance premium.

[8] This calculation was made by comparing the maximum loss-sharing percentage a company could incur with the maximum gain-sharing percentage it could earn.

specifically how reinsured companies would have fared if the new agreement had been in place in previous years. Different assumptions can provide different results. FCIC, however, modeled the 1992 agreement to see whether it was in compliance with the 1990 farm bill provisions requiring reinsured companies to assume more risk. FCIC's model applied the new agreement's provisions to actual claims experience between 1988 and 1990 to estimate the effect it would have had in those years. The model assumes that companies allocated 56 percent of their premium to the commercial fund, 21 percent to the developmental fund, and 23 percent to the assigned risk fund. These allocations are similar to historical experience. The model also assumes that the companies retained 100, 35, and 20 percent of liability in those funds, respectively.

FCIC's analysis shows that the 1992 agreement generally increases the risk of loss borne by reinsured companies and under certain conditions slightly increases their potential for gains. (See table 4.4.) The 1992 reinsurance agreement is likely to result in increased losses in years with large overall losses. For example, reinsured companies lost $8 million in 1988 but would have lost about $38 million under the 1992 agreement. Yet the reinsured companies would be likely to generate slightly higher gains in years when overall losses were relatively small. For example, the companies gained $53 million in 1990 and would have gained $54 million under the 1992 agreement.

Table 4.4: Actual vs. Simulated Financial Results for Reinsured Companies, 1988-90

Dollars in millions

	1988	1989	1990	Total
Actual				
Gain/(loss)	($8.0)	$28.4	$52.9	$73.2
Return on retained premiums	(4.1%)	8.0%	12.9%	7.6%
Simulated[a]				
Gain/(loss)	($38.1)	$6.7	$54.4	$23.0
Return on retained premiums	(14.6%)	1.4%	11.1%	1.9%

Note. Includes reinsurance business only.

Source: FCIC.

[a]To model the 1992 agreement, the analysis assumes approximate premium allocations to the commercial, developmental, and assigned risk funds of 56, 21, and 23 percent, respectively (which is similar to historical allocations), and retention within those funds of 100, 35, and 20 percent, respectively.

Policy Changes and Management Improvements Needed to Increase Private Sector Capacity to Bear Risk

The amount of risk reinsured companies bear under the 1992 standard reinsurance agreement is relatively small when compared with the amount or risk for excess loss the federal government still retains. Although risk retention by reinsured companies is likely to increase under the 1992 agreement, particularly if the companies take advantage of the gain-sharing opportunities in the commercial fund, FCIC will still assume liability for almost 75 percent of potential losses under a worst-case scenario. Even under noncatastrophic conditions, FCIC will still be paying a high percentage of all indemnities paid to policyholders.

The standard reinsurance agreement, by itself, cannot do much to substantially change the amount of risk allocated between the private sector and the government. Insurance companies cannot be required to participate in the program, and we believe that there is no reason to expect insurance companies to subsidize the program by paying losses out of their own equity. The development of the standard reinsurance agreement, according to FCIC's Manager, is a matter of finding the balancing point between the government's desire to leave as much risk as possible to the private sector while providing the insurance companies with sufficient incentive to participate in the program. Thus, the agreement by itself cannot fundamentally alter the risk-sharing relationship between the federal government and the private sector.

Furthermore, improving the crop insurance program—by changing policies and making management improvements—is essential for increasing the private sector's risk-bearing capacity.[9] For example, insurance industry representatives have indicated that their companies would be willing to take on more risk—with the opportunity to increase their underwriting gains—if the risks covered and the premiums charged on insurance policies were better correlated. Under such circumstances, we believe that insurance companies would have confidence that the program was taking in sufficient money to pay claims, and that they could take a larger share of risk without fear of major losses that would wipe out their equity. It is also likely that private reinsurance companies would make more capacity available under these circumstances, thereby diminishing the need to provide federal reinsurance. Although it is unlikely that private companies will ever be able to bear the risk of catastrophic loss—the type of devastating loss that occurs infrequently—federal crop insurance improvements could increase the amount of risk

[9] See Crop Insurance: Federal Crop Insurance Corporation Needs to Improve Decision-Making (GAO/RCED-87-77, July 23, 1987) for information on FCIC management problems.

private companies would be willing to bear. However, a number of factors affect FCIC's ability to improve the program's soundness. According to FCIC's Manager, FCIC has not done a very good job in the past of pricing polices for the risks covered. Some policies may be underpriced for the value of the coverage offered. The 1990 farm bill requires FCIC to review its pricing policies and raise policy rates where necessary. In addition, FCIC's Manager believes that better administrative controls are necessary to counteract program fraud. Our reviews of policy loss adjustments—which indicated that overpayments of claims were widespread—confirm the existence of oversight problems.

In addition, crop insurance is affected by a number of policy considerations that lead to losses. The program appears to be subject to high levels of adverse selection—the ability of farmers to determine before purchasing a policy whether they are likely to collect indemnities—and moral hazard—a phenomenon in which farmers may engage in riskier farming practices because they have insurance. Both factors can lead to losses. FCIC also incurs a high level of administrative costs since it must keep records on individual farm production histories. Because additional information about the risk-related characteristics of individual farms may reduce adverse selection and moral hazard problems, FCIC faces a choice between accepting higher levels of administrative costs associated with gathering this information and the underwriting consequences of offering insurance with imperfect information.

We believe fixing these problems is more complicated than just raising premium rates to build reserves for catastrophic losses—especially under conditions where the Congress continues to provide ad hoc disaster payments. Program administrators must also consider the effect of price increases on the demand for insurance and the amount of resources FCIC is willing to spend on information collection and program integrity to improve the program. Improving program performance may also require a review of some fundamental policies, such as whether FCIC should insure very high-risk farming operations or whether FCIC should only insure against risks that can specifically be shown to cause crop damage. Our subsequent review will address some of the major factors limiting the ability of insurance companies to bear more risk. Until such policy and management problems with federal crop insurance—problems that result in losses—are addressed, however, insurance companies will have neither the capability nor the incentive to assume significantly greater amounts of risk.

Agency Comments

We received written comments from USDA on a draft of this report. (See app. III for USDA's comments.) USDA did not comment on our analysis of the problems faced by FCIC from 1980 to 1990. USDA agrees with us that the 1992 agreement is a first step in requiring companies to assume a meaningful share of risk. USDA noted that its initiatives to improve program performance—especially improving actuarial soundness and combating fraud and abuse—can provide opportunities for greater risk sharing in future reinsurance agreements.

How Farmers Manage Agricultural Risks

Many agricultural risks can affect a farmer's fate. Both pests and bad weather, which can lower crop yields, and unexpectedly low commodity prices can significantly reduce a farmer's annual income. Farmers face two broad types of agricultural risk: production and price risk.[1] Production risks refer to factors causing variation in the amount of commodities the farmer has to sell. In addition to general farming practices, many factors affect production levels, including drought, flood, hail, frost, insect infestation, and plant disease. Price risks affect the level of revenue the farmer ultimately receives from marketing these commodities. In an extreme circumstance, a severe drought may cause the farmer's crop to fail, resulting in no crop revenue at all. Or the farmer may produce an above-average yield but, because of a low commodity price, may end up with unexpectedly low crop revenue.

Risk-averse farmers are willing to sacrifice some expected revenue for a reduction in revenue variability. In other words, risk-averse farmers, because they prefer a more certain and less variable income, often seek arrangements permitting them to reduce some of the risk they face in making production decisions. Other farmers, who may be more willing to bear risk, are not willing to sacrifice expected income for a reduction in the risk they face.[2] To the extent that risk-averse farmers can lessen their price and production risks, they will be more willing to invest land, labor, and other resources into their enterprises, thereby increasing the overall productivity of the economy.

Production and financial arrangements that mitigate agricultural risks can either reduce the total amount of risk or transfer the risk from farmers to others in society. Farmers can reduce production risks through various methods, such as using irrigation and pesticides, planting only in favorable soil locations, diversifying crop (and livestock) mixture, or planting hardier crops. For instance, by choosing to incur the costs of irrigation, a producer faces a more predictable crop yield and a reduced risk of low crop yield as a result of drought.

In contrast, risk-transferring or -sharing arrangements do not typically reduce the total amount of risk, but rather reduce the costs associated

[1] Farmers also face risks similar to other enterprises, including credit risk and risk against property and casualty losses.

[2] Individual farmers, like people generally, vary in their attitudes toward risk. Those who are risk-neutral or are risk-preferable are unwilling to sacrifice expected income for a reduction in income variability. Since only risk-averse individuals are willing to pay to lessen the risk they face, insurance schemes generally appeal to risk-averse individuals.

with bearing that risk.[3] By transferring risk to an insurer—by paying a fixed premium in exchange for an indemnity payment from the insurer if a specified production level is not met—a farmer's yield-related revenue risk is lessened even though the inherent risk of a low crop yield because of a drought remains. In this way, insurance and other risk-transferring arrangements allow society to undertake high-risk investments that increase society's standard of living.

Farmers have a variety of methods to manage agricultural risks. In addition to choices of crop mix, farming practice, and insurance purchase, farmers can borrow money or use savings—in effect, self-insure—when production is low. Farmers can hedge some price risks through the use of futures contracts. USDA offers many programs to help farmers manage risks. For instance, deficiency payments and nonrecourse loan programs, which increase the price farmers receive for their commodities, shift the risk of low commodity prices to the government. Disaster payments and emergency loans (to the extent that farmers know that they will be made available) shift production risks to the government.[4] Consequently, purchasing crop insurance may not always be an economically rational choice, even for risk-averse farmers. This is particularly true if the crop insurance policy costs the farmer more than the value of risk transferred to the insurer.

[3] Risk pooling illustrates how the costs of risk bearing can be reduced. The cost of risk is often expressed in terms of the variance of production or income, with more variable production levels being more risky. In general terms, a producer's expected level of output remains unchanged upon agreeing to join a group of similar producers and share proportionately in the total production of this group. However, the individual producer's variance of output—the cost of risk—is significantly reduced upon joining this risk-sharing pool. In other words, the pool provides the producer with a less risky means of attaining the same level of expected output. An insurer, by providing a risk-sharing pool, may be able to bear risk at a much lower cost than the individual farmer.

[4] Programs that permit individual farmers to transfer production risks result in increased risk taking in society. However, the disaster assistance program is thought to induce some especially risky farming activity.

Costs and Performance of Agricultural Disaster Assistance Programs

Table II.1: ASCS Disaster Payments Program Costs, 1980-90

Dollars in thousands

	Fiscal Year		
Program	**1980**	**1981**	**1982**
Crop disaster assistance[a]	$257,753	$1,029,905	$306,100
Emergency feed program	23,402	328,504	16,051
Emergency conservation program	22,197	15,701	4,400
Forage assistance program	0	0	0
Tree assistance program	0	0	0
Administrative costs	[c]	48,253	10,839
Total	**$303,352**	**$1,422,363**	**$337,390**

				Fiscal Year				
1983	1984	1985	1986	1987	1988	1989	1990	Total
$114,925	$1,121	$14	$35	$556,470	$15,403	$3,404,716	$1,460,135	**$7,146,577**
(134)[b]	(43)[b]	175[b]	996	242,269	71,824	526,326	153,396	**1,362,766**
9,854	15,488	11,415	7,103	4,657	4,763	7,894	12,257	**115,729**
0	0	0	0	0	0	3,060	13	**3,073**
0	0	0	0	0	0	2,172	4,608	**6,780**
3,252	10,413	6,191	8,476	20,797	22,213	67,936	29,198	**227,568**
$127,897	**$26,979**	**$17,795**	**$16,610**	**$824,193**	**$114,203**	**$4,012,104**	**$1,659,607**	**$8,862,493**

[a]Includes cash payments and commodity certificates, based on face value on issuance day.

[b]Reflects prior year adjustments.

[c]1980 administrative cost data unavailable. Figures for 1981-1990 are estimates.

Table II.2: FmHA Emergency Loan Program Costs, 1980-90

Dollars in thousands

	Fiscal Year		
Program	**1980**	**1981**	**1982**
Interest subsidy	$211,780	$352,458	$378,657
Loan write-off	2,696	309	7,188
Administrative costs	[b]	[b]	64,874
Settlement loss on guaranteed loans	843	0	0
Other[c]	29,942	49,404	(10,038)
Total	**$245,261**	**$402,171**	**$440,681**

Fiscal Year								
1983	**1984**	**1985**	**1986**	**1987**	**1988**	**1989**	**1990**	**Total**
$368,250	$352,397	$571,536	$649,297	$692,384	$688,898	$672,800	[a]	**$4,938,457**
9,942	18,202	64,669	109,742	370,929	808,005	1,424,446	1,398,647	**4,214,775**
57,746	70,337	52,925	59,493	54,849	64,266	66,918	62,844	**554,252**
36	62	121	56	0	91	0	0	**1,209**
251	(2,325)	41,086	47,010	61,885	86,231	77,846	[a]	**381,292**
$436,225	**$438,673**	**$730,337**	**$865,598**	**$1,180,047**	**$1,647,491**	**$2,242,010**	**$1,461,491**	**$10,089,985**

[a]Data not available because of change in reporting requirements.

[b]Total administrative costs unavailable for 1980-81. Administrative costs from the revolving fund are included in "other" category for 1980-81.

[c]Includes costs for property management, loan servicing, and other miscellaneous expenses.

Table II.3: FCIC Program Costs, 1980-90

Dollars in thousands

	Fiscal Year		
Category	**1980**	**1981**	**1982**
Indemnities	$305,281	$476,249	$338,594
Administrative expenses	38,110	104,714	128,847
Total	**$343,391**	**$580,963**	**$467,441**

					Fiscal Year			
1983	1984	1985	1986	1987	1988	1989	1990	Total
$441,604	$651,624	$662,076	$600,878	$414,119	$1,047,886	$1,138,196	$1,037,420	**$7,113,927**
122,899	177,614	205,385	198,773	180,308	232,644	353,970	358,762	**2,102,026**
$564,503	**$829,238**	**$867,461**	**$799,651**	**$594,427**	**$1,280,530**	**$1,492,166**	**$1,396,182**	**$9,215,953**

Table II.4: FCIC Sources of Funding, 1980-90

Dollars in thousands

	Fiscal Year		
Category	**1980**	**1981**	**1982**
Government			
Premium subsidy	$0	$46,996	$91,418
Expenses appropriation	28,015	91,951	139,306
Paid-in capital	0	287,978	250,000
Total	**$28,015**	**$426,925**	**$480,724**
Producer			
Premium	$156,678	$332,451	$309,811
Other[b]	5	34	284
Total	**$156,683**	**$332,485**	**$310,095**
Total (government and producer)	**$184,698**	**$759,410**	**$790,819**

				Fiscal Year				
1983	1984	1985	1986	1987	1988	1989	1990	Total
$64,559	$98,352	$100,088	$89,633	$87,129	$107,379	$205,338	$214,170	**$1,105,062**
131,306	177,604	199,608	193,503	175,341	215,675	205,954	237,694	**1,795,957**
150,000	50,000	163,000[a]	450,000	300,000	900,000	400,000	300,000	**3,250,978**
$345,865	$325,956	$462,696	$733,136	$562,470	$1,223,054	$811,292	$751,864	**$6,151,997**
$226,813	$337,809	$343,388	$298,155	$281,735	$315,662	$554,951	$630,591	**$3,788,044**
1,194	3,633	5,959	5,311	6,585	7,431	9,534	10,870	**50,840**
$228,007	$341,442	$349,347	$303,466	$288,320	$323,093	$564,485	$641,461	**$3,838,884**
$573,872	**$667,398**	**$812,043**	**$1,036,602**	**$850,790**	**$1,546,147**	**$1,375,777**	**$1,393,325**	**$9,990,881[c]**

[a]Includes a $113 million U.S. Treasury loan.

[b]"Other" includes interest income FCIC received from policyholders and reinsured companies, recoveries on uncollectible accounts previously written off, and recoveries of amounts through litigation.

[c]Includes change in cash in U.S. Treasury from 1979 to 1990 of $708 million.

Comments From the U.S. Department of Agriculture

United States Department of Agriculture | Federal Crop Insurance Corporation | Office of The Manager | Washington, D.C. 20250

TO: John W. Harman, Director
Food and Agriculture Issues
Resources, Commodity, and Economic Development Division

FROM: Manager

SUBJECT: U.S. General Accounting Office Draft Report, "CROP INSURANCE: Program Has Not Fostered a Significant Amount of Risk Sharing by Insurance Companies" (RCED-92-25)

In response to the General Accounting Office's (GAO's) subject Draft report dated October 7, 1991, the Federal Crop Insurance Corporation (FCIC) has the following comments:

COMMENTS TO GAO DRAFT CONTENT:

Crop Insurance Has Experienced Problems Since 1980:

FCIC has no comments.

Government Retained Virtually All Crop Insurance Liability Between 1980 and 1990:

FCIC has no comments.

Reinsured Companies Will Bear More Risk Under the 1992 Standard Reinsurance Agreement:

FCIC agrees the 1992 Standard Reinsurance Agreement (SRA) is a first step in requiring companies to assume a meaningful share of risk. As program improvements continue to be made, future Agreements will recognize the opportunity towards increasing the companies share of risk.

Recommendations:

None.

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GENERAL COMMENTS:

FCIC has initiated a comprehensive enforcement strategy to combat fraud and program abuse within the crop insurance delivery systems. This strategy includes the selection and imposition of various sanctions available to the Corporation directly or in coordination with the Office of Inspector General (OIG), the Office of General Counsel (OGC), and the Department of Justice (DOJ). FCIC is currently revising Subpart E of 7 CFR Part 400 strengthening available sanctions and procedures under which the sanctions system will operate. This draft is currently under review by OGC.

SUMMARY

As noted in the GAO report, referenced from a Nesterczuk and Associates report, "the soundness of the program varies by crop and by state. A 1989 consultant study commissioned by FCIC concluded that, except for the effects of catastrophic drought in 1983 and 1988, 75 percent of the program in the 1980's performed reasonably well."

FCIC has implemented a nationwide review of various crop programs to implement necessary action(s) needed for strengthening and improving individual crop program performances. Current improvements are being implemented by FCIC's Management By Objective (MBO) tracking system. The Corporation acknowledges there are areas within the crop insurance program that need to be strengthened. Actuarial soundness is one area of highest priority.

Please note, editorial comments are also in response to this report and are attached as an addendum. If you have any further questions in response to the subject report, please do not hesitate to contact this office.

James E Cason

JAMES E. CASON
Manager

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ROLAND R. VAUTOUR, Under Secretary
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11/5/91
Date

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