



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

THE FEDERAL CROP INSURANCE PROGRAM:  
OPPORTUNITIES AND CHALLENGES

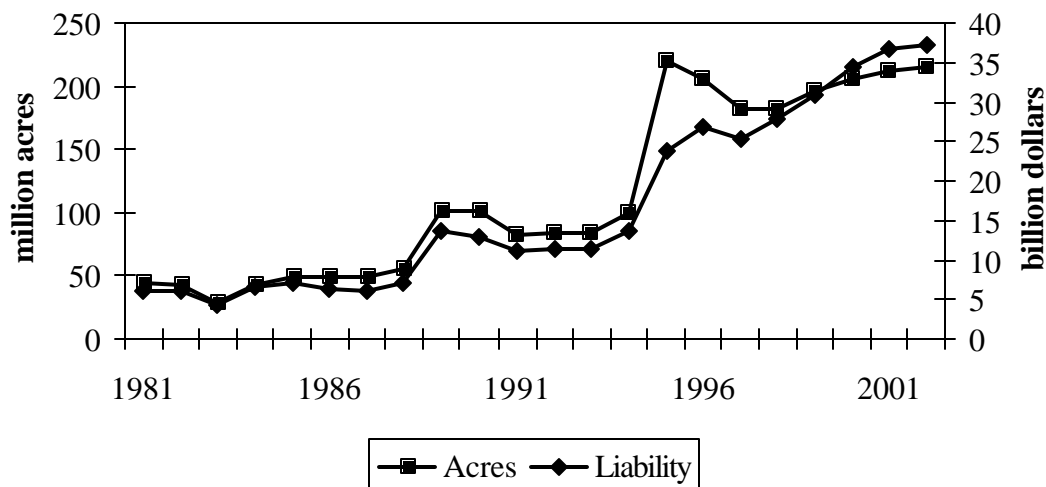
Barry J. Barnett  
Associate Professor  
Department of Agricultural and Applied Economics  
University of Georgia

**Expansion of the Federal Crop Insurance Program**

The Federal Crop Insurance Program is a public-private partnership administered by the Risk Management Agency (RMA) of the U.S. Department of Agriculture. In 1979, the Federal Crop Insurance Program consisted of one insurance product available for only 29 crops. That one insurance product, multiple-peril, farm-level, yield insurance, was available (for at least one crop) in slightly over 1,500 U.S. counties. Insurance liability of approximately \$2 billion was in place on 21.2 million insured acres.

In 2002, the Federal Crop Insurance Program consisted of several insurance products available for over 100 commodities (crops and livestock). At least one crop insurance product is available in almost 3,100 U.S. counties. Insurance liability of more than \$37 billion was in place on more than 215 million insured acres (figure 1).

Figure 1: Acres Insured and Liability, 1981-2002



**Major Legislative Changes**

Several important legislative changes have fueled the phenomenal growth of the Federal Crop Insurance Program since 1979. The Federal Crop Insurance Act of 1980 initiated an effort to shift federal resources into agricultural insurance rather than standing disaster assistance programs. Toward that end, the 1980 Act created a public-private partnership where private insurance companies would sell and

service federal crop insurance policies. The federal government would be responsible for: 1) establishing premium rates; 2) reimbursing administrative and operating expenses; 3) providing reinsurance; and 4) providing premium subsidies to farmers who purchased crop insurance policies.

The Crop Insurance Reform Act of 1994 made changes that provided farmers with a catastrophic (CAT) insurance policy at no premium cost. Farmers who took CAT insurance policies were required to pay a small administrative fee. The 1994 Act also increased premium subsidies on so-called “buy-up” coverage – insurance coverage above the catastrophic level provided by the federal government. In addition, the 1994 Act provided authority for revenue insurance products. In 2002, farm-level revenue insurance products accounted for 48% of all federal crop insurance premiums.

The Agriculture Risk Protection Act of 2000 again increased premium subsidies for buy-up insurance coverage. The 2000 Act also provided authority for the development and sale of livestock insurance policies. Section 508h of the 2000 Act created a process whereby private entities could submit proposals for new insurance products. Interestingly, the 2000 Act puts the burden of proof on the federal government to indicate why a product proposal should not be adopted within the Federal Crop Insurance Program. If such evidence is not provided within a specified period of time, the product automatically becomes part of the Federal Crop Insurance Program and the federal government reimburses the submitter’s product development costs. This change will likely open the door for a whole host of new insurance products. Some of these new products will offer protection for previously uninsured commodities. Others will provide new product choices for commodities that are already insurable under one or more existing products.

## **Program Objectives**

Policymakers have expressed at least two major objectives for the Federal Crop Insurance Program. The first is to reduce demands for disaster assistance by increasing crop insurance participation and expanding the availability of crop insurance coverage into new commodities and/or regions. The second is to maintain actuarial soundness.

### *Reduce Demands for Disaster Assistance*

When the 1980 Act was adopted, policymakers expressed the hope that an expanded crop insurance program would reduce political demands for disaster assistance. The House Committee on Agriculture went so far as to suggest that 50 percent participation might be adequate to meet that objective. The move to private-sector sales and servicing of federal crop insurance policies, authorized by the 1980 Act, was motivated, in large part, by a desire to increase participation. Rapid expansion into new commodities and regions would be accomplished by utilizing the existing network of private insurance agents who, up until this time, had been selling only private crop insurance products such as hail and/or fire coverage.

Unlike private-sector insurance, agents are required to sell federal crop insurance policies to all who meet the minimum eligibility requirements. If an insurer does not wish to hold the loss risk on a given policy, they can, within certain bounds, cede some of the loss risk to the federal government through the standard reinsurance agreement (SRA). Thus, the SRA encourages increased participation by facilitating the sale of federal crop insurance policies in regions, or to individuals, that may not be considered sound commercial risk by a private insurer.

Premium subsidies also encourage participation. Many studies have shown that people tend to underestimate their exposure to low-probability loss events. Thus, they are less likely to be willing to pay the full cost of insurance protection against these events. The premium subsidies, initiated by the 1980 Act and increased by the 1994 and 2000 Acts, effectively reduce farmers' cost of crop insurance thus increasing the likelihood that they will participate in the program.

Policymakers often cite insufficient crop insurance participation to justify continued *ad hoc* disaster assistance. Yet both acres insured and liability have increased dramatically since 1980. As a percentage of eligible acreage, crop insurance participation at the buy-up level has exceeded 50 percent since 1999. If CAT coverage is included, participation since 1999 has been between 70 and 80 percent. Yet, despite the increases in crop insurance participation, *ad hoc* disaster assistance has been provided in all but 8 federal fiscal years since 1981 and every year since 1999.

### Actuarial Soundness

Policymakers have also expressed an objective that the Federal Crop Insurance Program be actuarially sound. One measure of actuarial soundness is the loss ratio, calculated as indemnities paid divided by total premiums collected. A loss ratio greater than 1.00 indicates that the program paid more in indemnities than was collected in premiums.

The loss ratio for the Federal Crop Insurance Program exceeded 1.00 in every year between 1981 and 1993. In 1993, policymakers established a long-run loss ratio target of 1.075 for the Federal Crop Insurance Program. Since 1994 the program has exceeded that target loss ratio only once, in 2002 (figure 2).

Aggregate loss ratios, however, mask important commodity and regional differences in the actuarial performance of the Federal Crop Insurance Program. Figure 3 shows aggregate loss ratios by crop for the period 1981-1999. Figure 4 shows that since 1981, aggregate loss ratios have been highest in the South and in the plains states. The Midwest has experienced relatively low loss ratios.

Figure 2: Federal Crop Insurance Program Loss Ratios

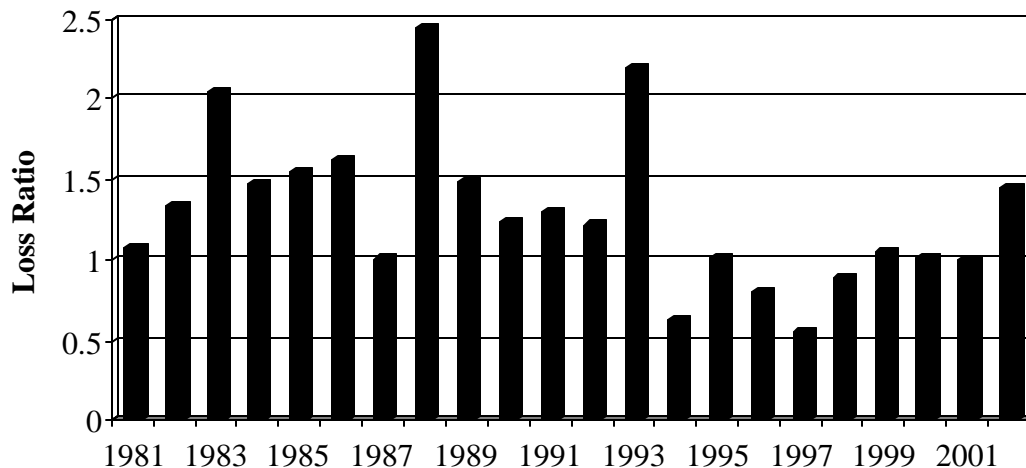


Figure 3: Loss Ratio by Crop, 1981-1999

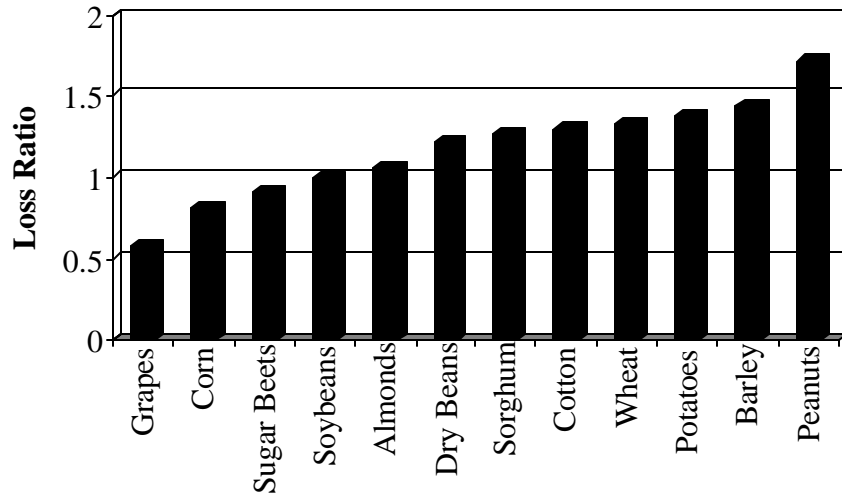
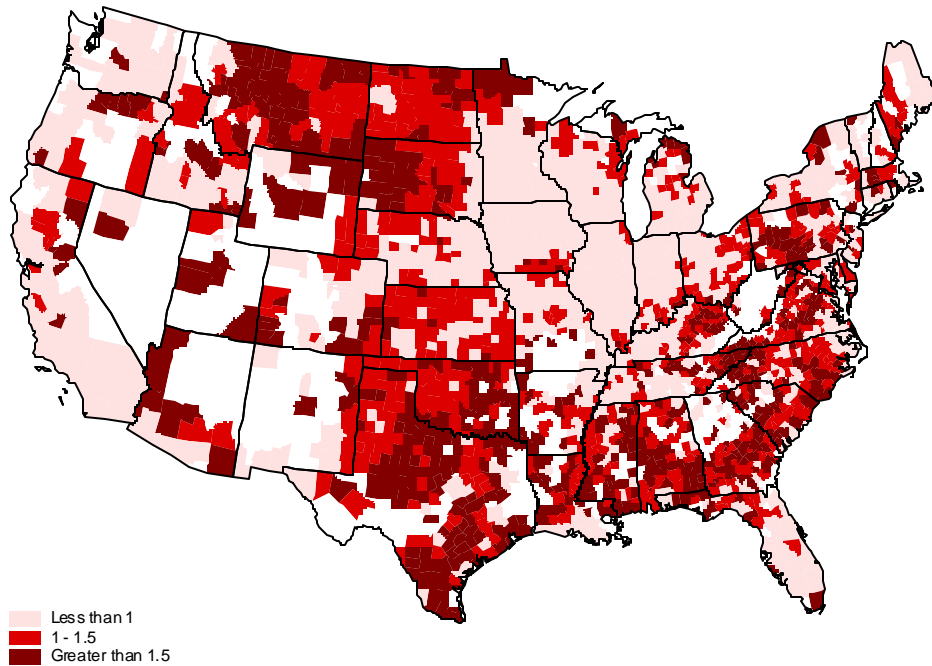


Figure 4: Geographical Differences in Aggregate Loss Ratios, 1981-2002



## *Compatibility of Objectives*

It is important to note that increasing participation and maintaining actuarial soundness are not necessarily compatible objectives. A private insurer can choose not to offer insurance coverage to high-risk applicants. Alternatively, a private insurer may increase premium rates for applicants who are deemed to not represent sound commercial risk. These decisions help private insurers maintain actuarial soundness. The crop insurance program, on the other hand, must accept all applicants who meet the minimum program requirements. Premium rates are adjusted for differences in relative risk among applicants but the adjustments are constrained by program regulations.

Long-run loss ratios that are well above one signal the existence of a problem with the insurance product. The problem may be caused by inadequate assessment and classification of policy-holders' risk exposure. The problem may be caused by fraudulent behavior on the part of policy-holders. Or it could be that premium rates are just too low. It is not easy to identify risk classification or fraud problems, so insurers typically assume that high loss ratios occur because premium rates are too low. So to maintain actuarial soundness, they increase premium rates. Through the years this has occurred with many federal crop insurance county-commodity-product combinations. But increasing farmer premiums to maintain actuarial soundness will increase farmers' cost of insurance. This will reduce participation unless the effect of increased premium rates can be offset with federal premium subsidies.

## **Stakeholders**

The Federal Crop Insurance Program involves a number of interested stakeholders. Obviously, crop farmers have an important stake in the program. As a result of the changes brought about by the 2000 Act, livestock farmers may increasingly have a stake in the program as well.

Agricultural lenders sometimes require farmers to purchase crop insurance as a condition for receiving operating loans. Thus, crop insurance helps to collateralize lenders' loan portfolios.

The private insurance companies that sell and service crop insurance policies are major stakeholders in the Federal Crop Insurance Program. Any major program change can have dramatic effects on their profitability.

Private insurers market crop insurance policies through retail insurance agents. Some of these agents are employees of the insurance company. Others are independent agents who write policies for one or more insurance companies. All crop insurance companies and all agents sell identical federal crop insurance products at identical prices. Therefore, most farmers make purchase decisions based on which agent they are comfortable working with rather than what company is actually issuing the policy. The ability to move their book of business from one insurance company to another gives independent agents tremendous leverage when negotiating their commissions with insurance companies.

Other stakeholders include RMA employees and private reinsurance companies that provide reinsurance which supplements that offered through the SRA.

The RMA administrative staff and the Board of Directors of the Federal Crop Insurance Corporation (the quasi-governmental corporation that finances the Federal Crop Insurance Program) are faced with juggling the often competing goals of these many stakeholders. We have already seen that policymakers have expressed a desire for expansion into new commodities and regions, increased participation, and actuarial soundness. Yet, these objectives may not be inherently compatible. Farmer interests are not

always compatible with those of private insurance and reinsurance companies. The interests of crop and livestock farmers may not be compatible. The same may be true of farmers who produce the same commodity but in different regions of the country. Finally, many of these stakeholders may have goals that are incompatible with those of taxpayers who are currently spending between \$2 and \$3 billion per year on the Federal Crop Insurance Program!

## **Complexity**

The Federal Crop Insurance Program is extremely complex. There are at least two reasons for this. First, insurance products are inherently complex. Developing and rating insurance products requires a broad range of economic, statistical, and legal skills. Second, the Federal Crop Insurance Program has a very broad scope. The program offers a variety of insurance products for many commodities produced in many different regions of the U.S.

### *Inherent Complexity of Agricultural Insurance*

Insurance providers must have mechanisms for assessing an applicant's exposure to risk and classifying the applicant accordingly. Policy language must be developed that clearly describes what risks are being covered, deductibles, co-payments, the maximum dollar amount of protection, how indemnities will be calculated, and what actions are expected of the insured to mitigate losses. Data must be collected and sophisticated statistical procedures employed to calculate premium rates for each risk classification. Financial reserves must be accumulated and reinsurance acquired to insure that all potential indemnities can be paid. As with any business, a variety of legal services are required. Insurance providers, however, must also have compliance personnel who investigate potential cases of fraud and abuse and prosecute suspected offenders.

The inherent complexity of insurance is compounded when trying to insure agricultural risks. Risk exposure in agriculture varies widely by commodity and region. Even for a specific commodity produced in a specific region, risk exposure varies across individual farmers. Assessing risk exposure and classifying applicants accordingly has been one of the major challenges faced by the Federal Crop Insurance Program.

Procedures for calculating premium rates must be established for each insurance product. Often times, the data needed and statistical procedures utilized, are unique to that specific product. Claims are filed more frequently on agricultural insurance products than on many other lines of insurance. This increases the paperwork and administrative costs of agricultural insurance policies. It is extremely difficult to monitor the behavior of insured farmers. While most policy-holders are careful and honest, stories of fraud and abuse, carried out by insured farmers, abound in many rural communities.

Agricultural risks are often spatially-correlated. Agricultural perils such as drought (e.g., 2002 and 1988) or flood (e.g., 1993) can create widespread losses. When this occurs, an agricultural insurance provider may have to pay indemnities on a very high percentage of outstanding policies. Contrast this to other lines of insurance, such as automobile or life insurance, where the provider can predict with very high accuracy the percentage of policies on which claims will be paid in any given year.

Federal involvement in agricultural insurance is due, in large part, to the fact that agricultural risks are not easy to insure. Otherwise, these products would have been offered by the private sector long ago.

It is also insightful to contrast the inherent complexity of the Federal Crop Insurance Program with various other U.S. Department of Agriculture farm programs which typically require no risk assessment or classification, no underwriting, no rate-making and no individual farm loss-adjustment.

### *Scope of the Program*

In 1981 the Federal Crop Insurance Program offered approximately 5,000 county-commodity-product combinations. In 2002, the program offered 38,454 county-commodity-product combinations. The changes introduced by the 2000 Act will likely further increase the number of county-commodity-product combinations offered.

This expansion will further compound the complexity of the program. For example, the 2000 Act provided authority for the Federal Crop Insurance Program to begin insuring livestock. Only a few livestock products are currently available but research and development on many more livestock insurance products is ongoing.

By mandating development of insurance for livestock and other underserved commodities and creating the 508h submission process, the 2000 Act initiated what will likely be the next great expansion in the Federal Crop Insurance Program. While some stakeholders will no doubt benefit from this expansion it will add further complexity to an already extremely complex program.

### **Challenges and Opportunities**

The Federal Crop Insurance Program is at a crossroads. In the near future, a number of important challenges and opportunities will need to be addressed. Some of these are described below.

#### *How much expansion is desirable?*

As indicated above, after 1980 the Federal Crop Insurance Program experienced tremendous expansion. The 2000 Act both mandated further expansion and created a process for private-entities to develop new federal crop insurance products. But how much expansion is desirable? There are thousands of crop and livestock commodities produced in the U.S. Is it possible, or even desirable, for the Federal Crop Insurance Program to provide insurance protection for all of these commodities? If not, how should one determine which to include and which to exclude?

How many insurance products are necessary for each commodity? In many areas of the Midwest, corn and soybean farmers can now choose from at least six different federal crop insurance products. Three of these products offer farm-level revenue insurance protection with two of the three offering almost identical coverage. Also available are farm-level yield insurance, area-level yield insurance, and area-level revenue insurance. While it may be desirable to offer farmers different types of insurance products, many have questioned whether it is really necessary (or even desirable) to offer multiple products that are very similar (e.g., three farm-level revenue insurance products). Should legislative authority be changed to allow new insurance product submissions to be evaluated, in part, on their similarity to existing products?



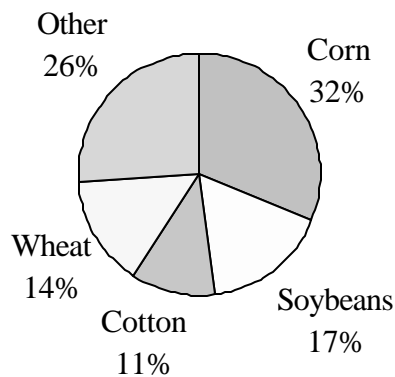
### *Maintaining Core Products*

Expansion also has budgetary implications for the RMA. Investments are required for research and development of new county-commodity-product combinations. These investments are currently made through contracts, partnership agreements, and 508h reimbursements.

When expansion occurs, limited funds for administering the Federal Crop Insurance Program become spread over more county-commodity-product combinations. This makes it more difficult to maintain core products.

The RMA currently lists about 100 agricultural commodities for which federal crop insurance products are available. However, some of these insurable commodities are actually aggregations of many different species. For example, all nursery crops are counted as one insurable commodity. Despite the broad range of commodities for which insurance is available, 74% of total crop insurance premiums in 2002 were for corn, soybeans, cotton and wheat (figure 5).

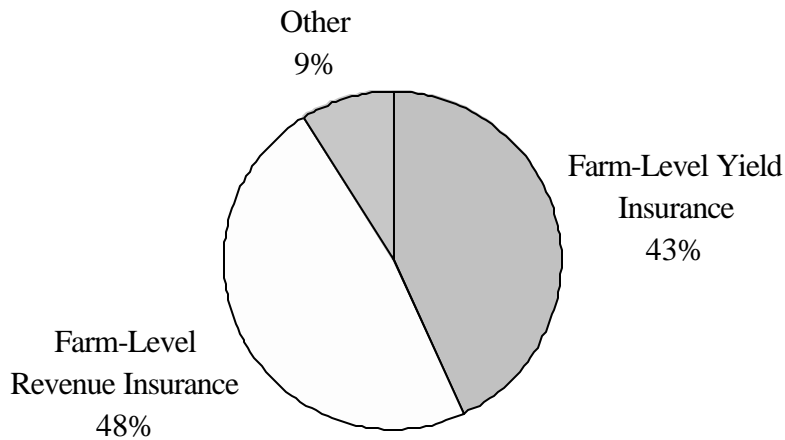
Figure 5: Total Premium, By Crop, 2002



While many insurance products are offered in the Federal Crop Insurance Program, most of the premium value is concentrated in a few products (figure 6). The standard farm-based yield insurance product known as Multiple Peril Crop Insurance (MPCI) accounted for 43% of all premiums collected in 2002. Another 48% of the premiums collected were for the various farm-level revenue insurance products known as Crop Revenue Coverage (CRC), Income Protection (IP), and Revenue Assurance (RA). The remaining 9% of premium collected was spread across area-based yield and revenue insurance products and a variety of products that insure mostly specialty crops.

Thus, despite the proliferation in insurance products and commodities covered, most crop insurance business is currently concentrated in a small set of core products and commodities. Specifically, in 2002, almost 72% of total premium collected was for only three products (MPCI, CRC, RA) on four crops (corn, soybeans, cotton, and wheat). Unless additional federal resources are made available, investments in rapid expansion may limit RMA's ability to maintain these core commodity-product combinations.

Figure 6: 2002 Total Premium, by Type of Insurance Product



*Premium Subsidies*

For the core farm-level yield and revenue insurance products that currently account for over 90 percent of premium collected in the Federal Crop Insurance Program, premium subsidies are calculated as a percentage of total premium cost. These premium subsidy rates were initially set in the 1980 Act and then increased in both the 1994 and 2000 Acts (table 1).

Table 1: Premium Subsidy Rates as a Percentage of Total Premium

Coverage Level*	1980 Act	1994 Act	2000 Act
55%	30.0%	46.1%	64.0%
65%	30.0%	41.7%	59.0%
75%	16.9%	23.5%	55.0%
85%	---	13.0%	38.0%

\*Coverage levels with maximum price selection

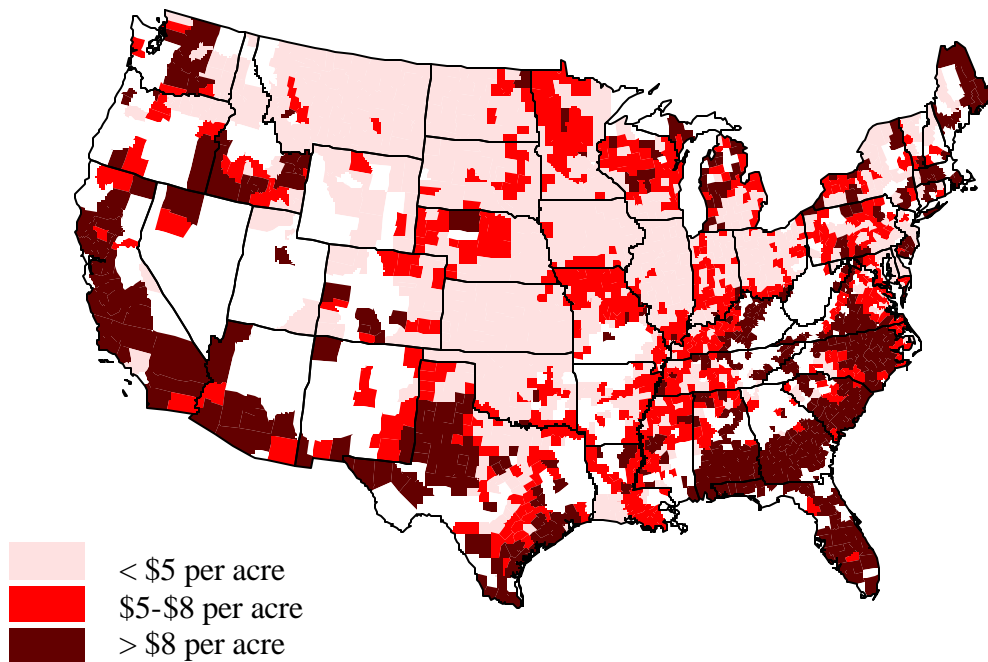
Since the subsidy is a percentage of the total premium, the dollar amount of subsidy received varies by the value of the commodity and the premium rate (the total premium cost per dollar of insurance protection). Of course premium rates are higher in riskier areas and for riskier commodities. So, the subsidy structure transfers more federal dollars to those who produce riskier commodities or produce in riskier areas.

Figure 7 shows the average premium subsidy per acre in 2000 for various regions of the U.S. The highest premium subsidies per acre occur for high value crops in California and Florida as well as in

cotton and peanut producing regions of the South. Noticeably, premium subsidies per acre are low in major production regions such as Illinois and Iowa (for corn and soybeans) and Kansas (for wheat).

Some have questioned why the federal government should be disproportionately subsidizing those agricultural producers who, by their own decisions, take on the most risk. Others have suggested that the subsidy structure encourages more production in risky areas. To the extent that risky production regions are also more environmentally fragile, the current subsidy structure may be working at cross-purposes with federal conservation programs.

Figure 7: Average Premium Subsidy per Acre, 2000



### *Changes in the Delivery System*

Beginning with the 2003 crop year, one private insurance company will begin selling federal crop insurance policies over the internet. Since an insurance agent is not involved in the purchase process, internet buyers will receive a premium discount. This innovation may have profound implications for crop insurance delivery. In the past, independent insurance agents have been able to negotiate commissions by shopping their anticipated book of business to several different insurance companies. If farmers are willing to purchase crop insurance over the internet, this will likely put downward pressure on insurance agent commissions. Of course, it may be that given the complexity of crop insurance decision-making and the amount of money at risk, farmers will be uncomfortable purchasing over the internet and will still prefer purchasing crop insurance through an insurance agent that they know and trust.

The private companies that sell and service federal crop insurance policies are reimbursed by the federal government for administrative and operating (A&O) expenses. This A&O reimbursement is calculated as a percentage of the total premium sold. Similarly, the commissions received by insurance agents are

typically based on a percentage of the total premium. This structure creates incentives for insurance companies and agents to target the largest farmers since the administrative costs associated with selling and servicing a large policy are not significantly higher than those for a small policy.

Though an increasing number of federal crop insurance products are being offered, anecdotal evidence suggests that some local insurance agencies are specializing in selling only one or two insurance products. Not surprisingly, these products tend to be those that generate the most premium. Specializing in a limited number of products may be a reasonable business decision, especially given the complexity associated with an increasing number of federal crop insurance products. To the extent that there is sufficient competition in a local market, this specialization should not be a problem since farmers can purchase other federal crop insurance products from other insurance companies and/or agents. The crop insurance industry, however, has become much more concentrated in recent years. While policymakers emphasize future product development and expansion, there may be a limit to the number of insurance products that local agents are willing to sell for a specific commodity in a specific region. The private-sector delivery system will respond not to policymakers expressed desires for expansion, but rather to the financial incentives that are in place.

### *The Standard Reinsurance Agreement*

Perhaps the most important issue that will be addressed in the near future is renegotiating the SRA for the core commodity-product combinations. The SRA establishes the parameters of the reinsurance agreement between the federal government and the private insurance companies that sell and service federal crop insurance products. While a detailed discussion of the SRA is beyond the scope of this manuscript, suffice it to say that, in many ways, the SRA is the lynchpin of the entire public-private partnership that is the Federal Crop Insurance Program. Indications are that the SRA will be renegotiated in 2003. Any significant changes will have important implications for the various stakeholders described earlier.

### **Important Considerations**

I will not presume to offer opinions on each of the challenges and opportunities mentioned above. Instead, I conclude by identifying some important considerations that should guide efforts to address these and other challenges and opportunities facing the Federal Crop Insurance Program.

#### *Geographic Differences are Important*

Risk exposure varies widely across the U.S. Cotton production in the Texas high plains is riskier than cotton production in the Mississippi delta. Wheat production in the northern plains is generally riskier than wheat production in Kansas. Soybean production in the South is riskier than soybean production in the Midwest. These differences in risk exposure can create geographical differences in both intended federal transfers, through premium subsidies, and unintended transfers, through high loss ratios.

#### *Not All Risks are Insurable*

Insurance experts identify certain conditions that must be met before a risk can be considered insurable. Some of these conditions are discussed below.

An insurer must be able to accurately classify applicants according to their risk exposure. If potential insurance purchasers have better information about their risk exposure than the insurer, the resulting

pool of insurance purchasers will be disproportionately weighted toward the riskiest individuals. This problem, known as “adverse selection,” will tend to cause high loss ratios. When this occurs in the private sector, the insurer may respond by increasing premium rates and selling only to the small pool of high risk individuals. Recall, however, that the objectives of the Federal Crop Insurance Program are actuarial soundness *and* high participation. Thus, increasing premium rates and selling only to a small pool of individuals is not an acceptable solution. During the 1990s, premium rates were increased to meet the actuarial soundness objective while premium subsidies were also increased to meet the participation objective. But note that the higher premium subsidies apply to all purchasers -- both the high risk individuals who were already in the pool of insurance purchasers and the low risk individuals that one is trying to attract into the pool. The lesson is that problems in risk classification can make it very expensive to try and simultaneously meet the actuarial soundness and participation objectives.

Assuming applicants can be accurately classified, an insurer must also be able to calculate the frequency and severity of loss for each risk classification. In statistical terms, the insurer must be able to accurately estimate the probability density function of outcomes for each risk classification. This information is used to establish premium rates. If the insurer cannot accurately estimate the frequency and severity of loss due, for example, to a lack of data, the established premium rates may be grossly inaccurate. Insufficient premium rates will generate losses for the insurer. Excessive premium rates will discourage insurance purchasing.

An objective third party must be able to determine clearly when a loss has occurred and the magnitude of the loss. This information is needed to conduct loss adjustment. If uncertainty exists regarding whether a loss has actually occurred or the magnitude of the loss, costly litigation will result when the insurer and insured disagree over whether an indemnity should be paid or the magnitude of the indemnity.

The insurer must also be able to verify that any loss was accidental and unintentional. In the case of agricultural insurance, this typically means being able to verify that the farmer employed best management practices. “Moral hazard” occurs if, as a result of purchasing insurance, the farmer, unbeknownst to the insurer, changes his/her management practices so as to increase the probability of loss or severity of loss. Moral hazard results in high loss ratios and can only be corrected by costly monitoring of policy-holder behavior. If the insurer responds by increasing premium rates, participation is likely to suffer.

If a risk falls seriously short of meeting these conditions, any effort to offer insurance against that risk will likely result in heavy losses for the insurer and failure of the insurance product.

### *Some Farmers Don't Want (or Maybe Even Need) Insurance*

Farmers use many methods to manage risk including forward pricing, diversification across commodities, geographical diversification, irrigation, use of improved plant and animal genetics, participation in federal farm income support programs, and off-farm sources of income. Farmers also manage financial risk over time through accumulated savings or by maintaining credit reserves. When making risk management decisions, farmers generally consider their entire portfolio of activities both on and off the farm. Crop insurance purchase decisions are thus conditioned by a host of other farm and household financial management decisions. This implies that some farmers will not want, or maybe even need, to purchase federal crop insurance products. This point is extremely relevant given the current emphasis on expansion and increased participation in the federal crop insurance program.

It is also important to note that the federal marketing loan program and counter-cyclical payment program provide price risk protection to producers of eligible crops (including the major crop insurance crops of corn, soybeans, wheat, and cotton). To the extent that these federal programs reduce farmers' exposure to price risk, they reduce demand for federal crop insurance products such as revenue insurance. Thus, higher premium subsidies are required to achieve crop insurance participation targets.

### *Crowding Out Happens*

Historically, private sector insurers have struggled to provide insurance against agricultural production losses. However, recent innovations in reinsurance and financial markets offer promise for overcoming the problem of correlated losses described earlier. Further, private sector markets have long provided mechanisms for price risk management, particularly for the commodities traded on major exchanges.

Large-scale expansion of the federal crop insurance program into new commodities and new products may crowd-out private-sector risk management initiatives. Private-sector suppliers of risk management tools simply cannot compete against highly subsidized federal crop insurance products.

### *Things Change*

Finally, it is important to remember that things change. Agricultural production technologies, many of which have risk management implications, continue to change. The marketing of agricultural commodities is increasingly moving toward integrated vertical linkages and away from spot markets. Commercial farms in the U.S. are becoming larger and more dependent on off-farm sources of income.

Changes are also occurring in insurance and capital markets. Increasingly, insurance and reinsurance companies are obtaining contingent capital using exotic capital market instruments such as catastrophe options, catastrophe bonds, and various types of weather derivatives. These, or similar, instruments may one day create new ways to reinsure agricultural risks in private markets.

While agricultural and financial environments change, the Federal Crop Insurance Program is itself experiencing change. When considering the challenges and opportunities identified above it is insightful to note how many of these items would not have been mentioned as recently as three years ago. Limited federal resources will require that the Federal Crop Insurance Program respond aggressively and creatively to change. This will involve continually reassessing the appropriate federal role in this public-private partnership. Are there more effective or efficient ways to provide premium subsidies or reinsurance? Can private-sector insurers take on responsibilities that are currently being handled by the federal government? How much expansion is necessary or desirable? In a changing climate, how can federal dollars best be used to meet the risk management needs of U.S. agricultural commodity producers?

# The Federal Crop Insurance Program: Opportunities and Challenges

Barry J. Barnett

University of Georgia

# Federal Crop Insurance Program

- Administered and regulated by RMA.
- Provides federally subsidized insurance products to agricultural producers.
- Public-private partnership between the federal government and private insurance companies.
- Federal Crop Insurance Board, appointed by the Secretary, is responsible for approving all new risk management products and expansion of existing products.



# Outline

- Environment.
  - Expansion.
  - Multiple Program Objectives.
  - Multiple Stakeholders.
  - Complexity.
- Challenges and Opportunities.
- Important Considerations.

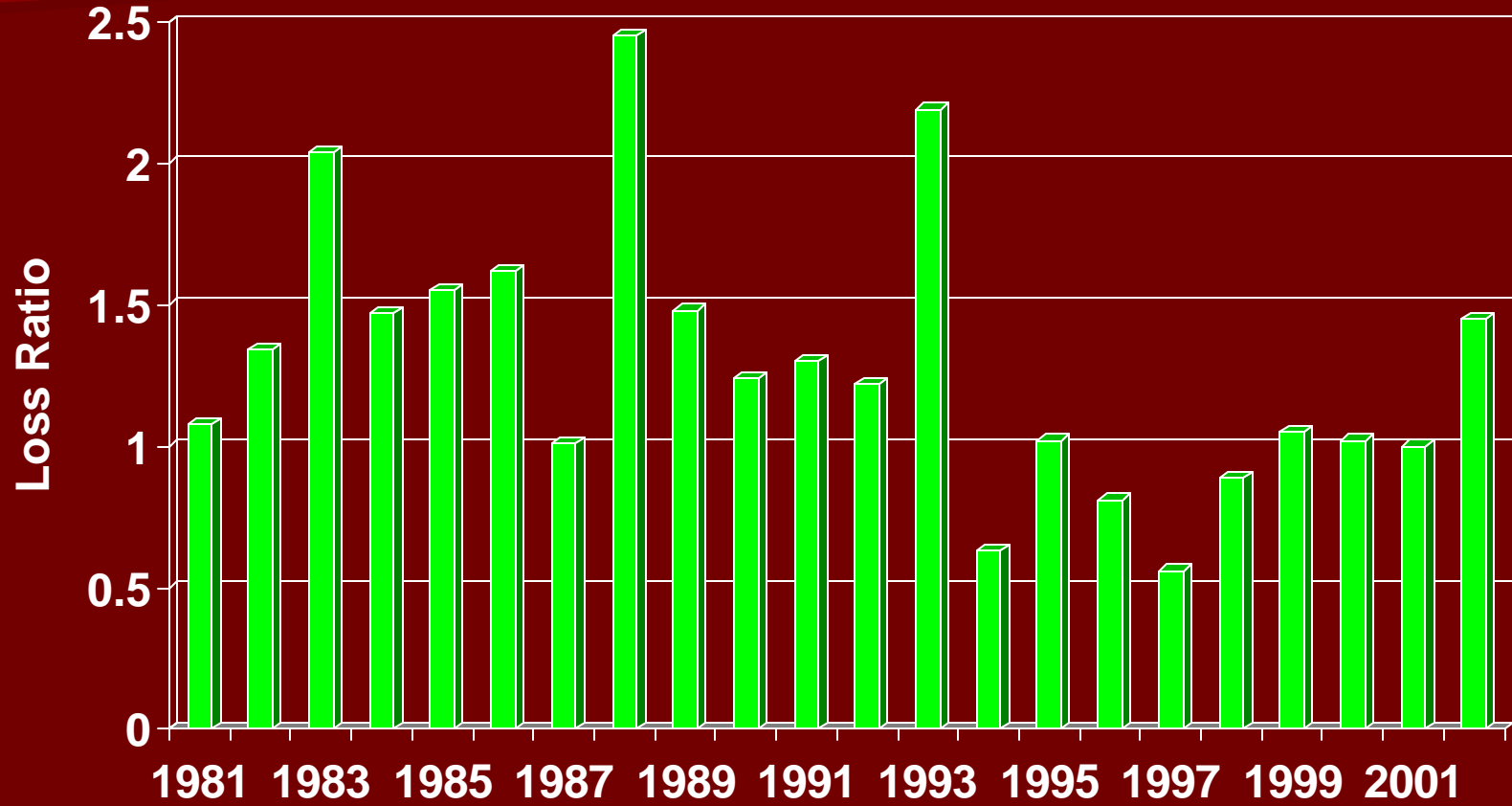
# Expansion



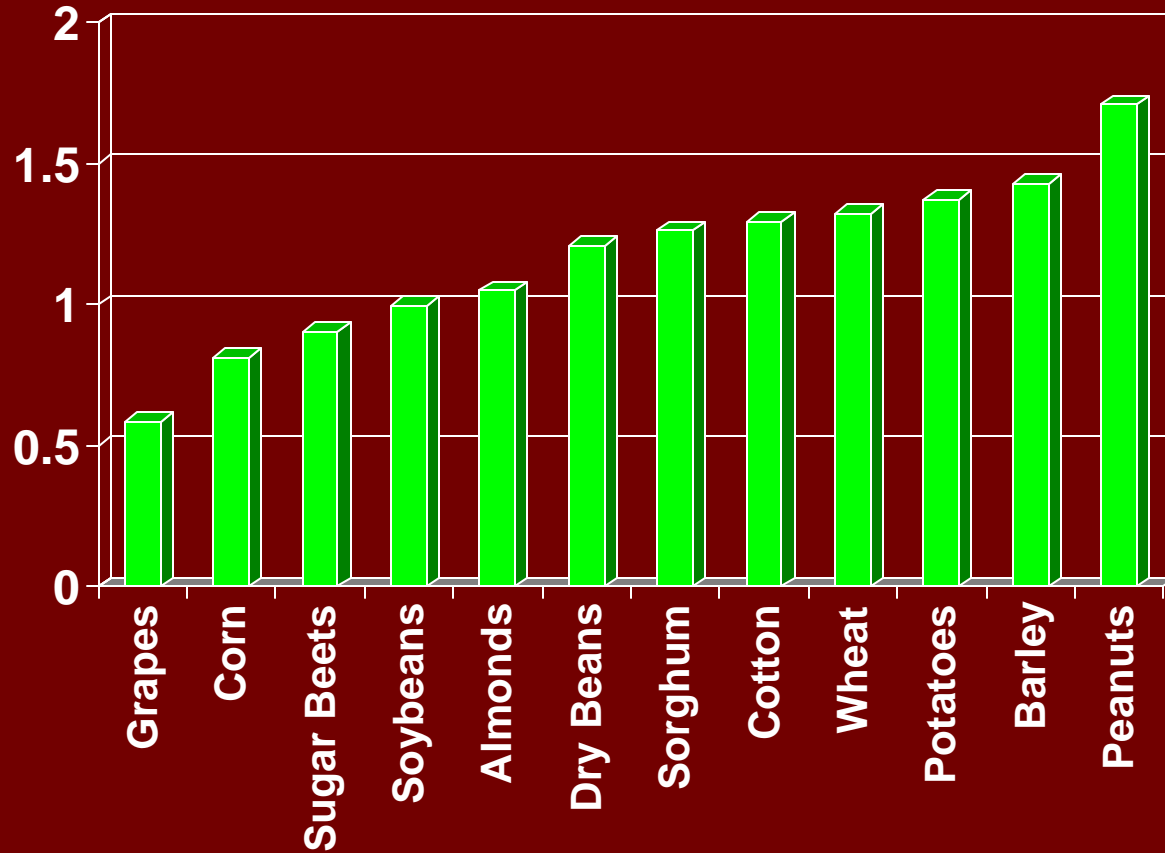
# Multiple Program Objectives

- Reduce demands for disaster assistance.
  - Increase participation.
    - Premium subsidies.
    - SRA provisions.
  - Expand into new commodities.
  - Expand into new regions.
- Actuarial soundness.
- Are these compatible?

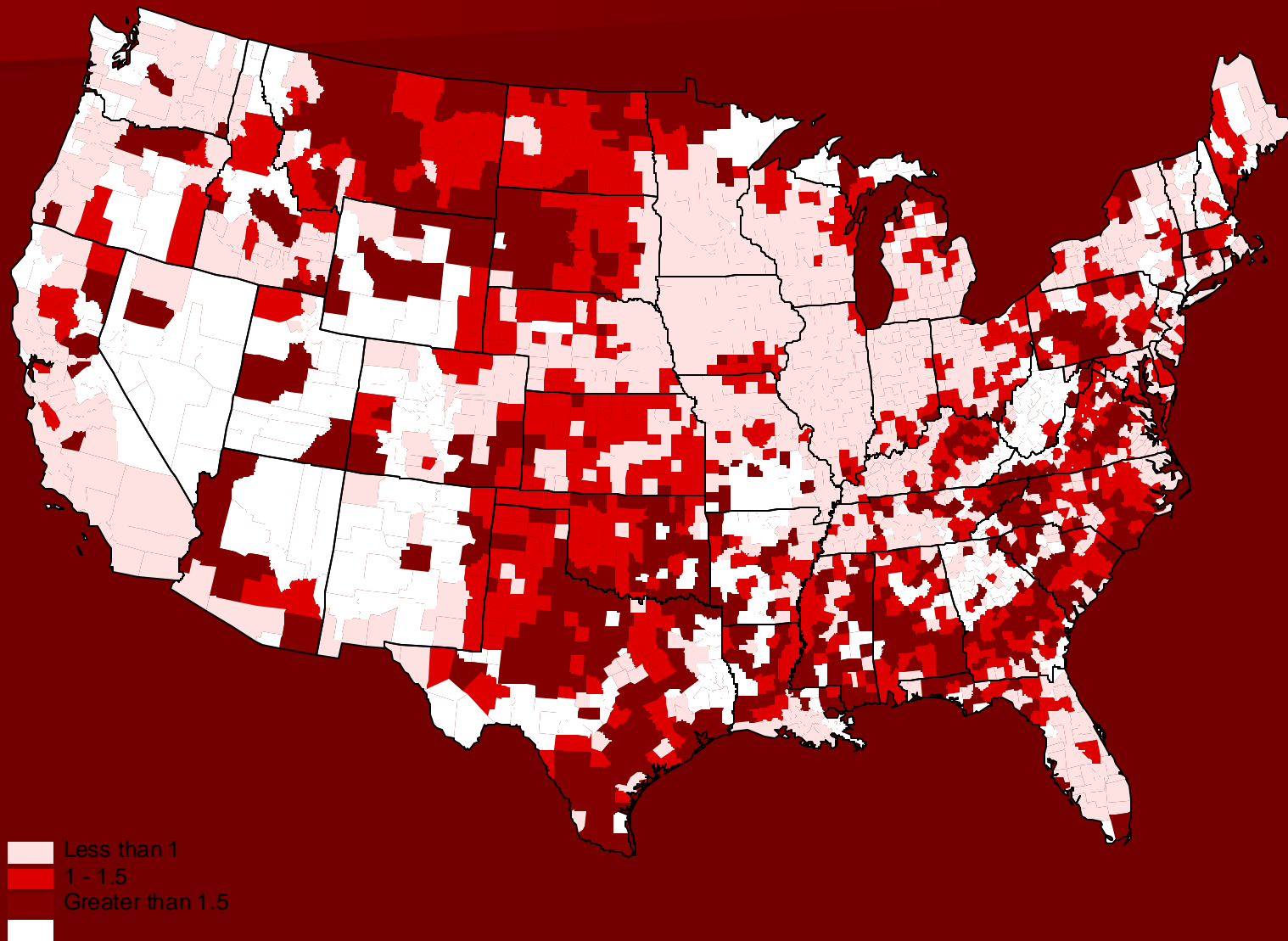
# Loss Ratios



# Loss Ratios, by Crop, 1981-1999



# Loss Ratios, 1981-2002



# Multiple Stakeholders

- Crop and livestock farmers.
- Lenders.
- Private insurance companies.
- Retail insurance agents.
- RMA employees.
- Private reinsurance companies.
- Taxpayers.

# Complexity

- Insurance is inherently complex.
  - Underwriting: risk assessment and classification.
  - Actuarial: establishing premium rates for each risk classification.
  - Loss adjustment: calculating indemnities.
  - Compliance: investigate fraud and abuse.
- Contrast to other USDA farm programs.



# Complexity

- Agricultural insurance is even more complex.
  - Risk varies by commodity.
  - Risk varies by region.
  - Risk varies by producer.
  - More frequent claims than other insurance lines.
  - Difficult to monitor farmer behavior.
  - Losses are often spatially-correlated.

# Complexity

- Scope compounds complexity.
  - 1981: approx. 5,000 county-commodity-product combinations.
  - 2002: more than 38,000 county-commodity-product combinations.
  - Authority for livestock products.
  - 508h submission process.

# Challenges and Opportunities

- How much expansion is desirable?
  - How many commodities?
  - How many products for each commodity?
  - Should similarity to existing products be a factor when considering new product submissions?

# Challenges and Opportunities

- Maintaining core products.
  - Expansion stretches limited RMA budget.
  - Over 70% of premium in 2002 was for farm-level yield and revenue insurance on corn, soybeans, cotton, and wheat.

# Challenges and Opportunities

- Delivery system.
  - Internet sales with premium discounts.
  - Some agencies are specializing in only a few products.
  - Some companies are reluctant to take loss risk on new products.

# Important Considerations

- Not all risks are insurable.
  - Must be able to assess and classify risk.
  - Must be able to accurately estimate frequency and severity.
  - Must be able to determine when a loss has occurred and the severity of the loss.
  - Must be able to verify that the loss was accidental and unintentional.
  - If not, high loss ratios.

# Important Considerations

- Not all farmers want (or need) insurance.
  - Many ways to manage risk.
  - Farmers consider entire portfolio of farm and off-farm activities.
  - Limit to participation rates!
  - Other federal farm programs reduce price risk. This increases the subsidies required to encourage crop insurance purchasing.

# Important Considerations

- Crowding out.
  - Large-scale expansion into new commodities and new products may crowd-out private sector initiatives. Can't compete against highly subsidized crop insurance.



# Important Considerations

- Things change.
  - Need to continually reassess appropriate federal role in providing agricultural insurance.

# Summary

- Environment.
  - Expansion.
  - Multiple Program Objectives.
  - Multiple Stakeholders.
  - Complexity.
- Challenges and Opportunities.
- Important Considerations.