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Corn Belt Contributions to the Crop Insurance Industry

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The crop insurance industry enjoyed another banner year in 2007, collecting $6.5 billion in premiums yet paying out only $3.2 billion in losses. I estimate that the industry will collect a record $2.8 billion from taxpayers. In contrast, the net amount that farmers received from the program in 2007 was only $750 million. Interestingly, since the beginning of this decade, the $11.3 billion in net payments to farmers (indemnities received minus farmer-paid premiums) is about equal to the amount that taxpayers have paid the industry ($11.1 billion). Overall, taxpayers have spent more than $22 billion since 2000 delivering about $11 billion in net payments to farmers, making crop insurance one of the least-efficient means by which taxpayers support the farm sector.

The scale of this inefficiency is well known to regular readers of this Review. What is difficult to understand is why the program persists in its present form when more efficient risk management programs could be adopted in the farm bill. One explanation is that campaign contributions from crop insurance companies and agents have persuaded key members of Congress to support continuation of the program. An alternative explanation is that farmers in certain regions excessively benefit from the program and that members from these regions are protecting the interests of their farmers. Support for this hypothesis comes from Senator Roberts from Kansas and Senator Conrad from North Dakota who have argued that reform of the crop insurance program threatens the viability of the program in those regions that depend most heavily on insurance payments. Specifically, they worry that a drop in crop insurance participation by Corn Belt farmers might force farmers in higher risk areas to pay more for insurance.

Implicit in this worry is the assumption that industry profits generated by Corn Belt farmers allow farmers in other regions to pay lower insurance premiums than they would have to pay otherwise. If this is true, then if Corn Belt farmers dropped out of the program, other regions would suffer. An examination of recent crop insurance data offers support for this conjecture.

Experience with Crop Insurance Since 2000
Participation in the crop insurance program was given a large boost with passage of increased premium subsidies that were included in the 2000 Agricultural Risk Protection Act. Since that time, farmers have had to pay a bit less than half the amount that USDA’s Risk Management Agency (RMA) has determined is needed to cover insured crop losses. This amount is called the actuarially fair premium. The large premium subsidy means that if all farmers pay actuarially fair premiums then the ratio of indemnities received (crop losses covered) to farmer-paid premium should equal two. While the period since 2000 in looking at crop losses is too short a time to judge actuarial fairness of crop insurance premiums, it is instructive to see if there is a discernible geographic pattern to the ratios since 2000.

As shown in Figure 1 on page 2, Great Plains states all have ratios greater than 2.0 while farmers in the five Corn Belt states all have ratios less than 2.0. This shows that farmers in the Great Plains have benefited far more than have Corn Belt farmers from crop insurance. Note that Indiana, Illinois, and Iowa all have ratios less than 1.0. This means that farmers in these three states have paid more dollars in premiums than have been returned to them in indemnities. That is, far from receiving subsidized premiums, Corn Belt farmers have, in fact, been paying more into the program than they have gotten in return.

Another way of looking at the distribution of crop insurance payments is to simply add up premiums paid and indemnities received.
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Corn Belt Contributions to the Crop Insurance Industry

As shown in Figure 2, Texas, Kansas, North Dakota, and South Dakota have all received more than $1 billion in net payments since 2000. In contrast, farmers in Indiana, Illinois, and Iowa together paid $750 million more in premiums than they have received from the program. Clearly, the recent experience in crop insurance suggests that Corn Belt farmers are paying too much in premiums, and Great Plains states received. As shown in Figure 2, Texas, Kansas, North Dakota, and South Dakota have all received more than $1 billion in net payments since 2000. In contrast, farmers in Indiana, Illinois, and Iowa together paid $750 million more in premiums than they have received from the program. Clearly, the recent experience in crop insurance suggests that Corn Belt farmers are paying too much in premiums, and Great Plains states received. As shown in Figure 2, Texas, Kansas, North Dakota, and South Dakota have all received more than $1 billion in net payments since 2000. In contrast, farmers in Indiana, Illinois, and Iowa together paid $750 million more in premiums than they have received from the program. Clearly, the recent experience in crop insurance suggests that Corn Belt farmers are paying too much in premiums, and Great Plains states received. As shown in Figure 2, Texas, Kansas, North Dakota, and South Dakota have all received more than $1 billion in net payments since 2000. In contrast, farmers in Indiana, Illinois, and Iowa together paid $750 million more in premiums than they have received from the program. Clearly, the recent experience in crop insurance suggests that Corn Belt farmers are paying too much in premiums, and Great Plains

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farmers (among others in the country not shown) are paying too little.

**Corn Belt Contributions to Industry Profits**

Each year, the crop insurance program allows companies to keep some of the gains in states where premiums exceed losses in exchange for taking on some of the risk in states where losses exceed premiums. The program also allows companies flexibility in choosing how much of the gain or loss they want to keep in each state. Companies have learned to keep as much of the risk as possible in the Corn Belt states and to give the government as much of the risk as possible in higher-risk states. Thus, it should come as no surprise that much of the net underwriting gains paid to companies are generated in the Corn Belt states.

Total underwriting gains paid to the crop insurance industry range from -$52 million in 2002 to an estimated $1.5 billion in 2007. To estimate the contribution to these gains that the Corn Belt made, premiums and losses were calculated each year for the top five corn and soybean states: Iowa, Illinois, Minnesota, Indiana, and Nebraska. Underwriting gains for each state were then calculated using the rules laid out in the Standard Reinsurance Agreement. The results are shown in Figure 3.

In almost every year, more than 50 percent of the underwriting payments to crop insurance companies were generated by just two crops in five states. Since 2000, 67 percent of total underwriting gains have been generated by corn and soybeans in these five states, even though these state-crop combinations generated only 32 percent of the premiums. Adding underwriting gains to the 32 percent of administrative and operating subsidies that are paid to the companies, it’s easy to conclude that corn and soybean insurance in just five states generates 50 percent of the revenue to the crop insurance industry and most of its profits. From this perspective it is clearly true that if Corn Belt farmers left the program, then offering insurance to farmers in the other parts of the country would be much less attractive to the industry.

**Is Corn Belt Insurance Overrated?**

Excessive profits insuring Corn Belt farmers must imply that Corn Belt insurance premiums are too high relative to the risks covered. Before we can conclude that crop insurance premiums on corn and soybeans are too high in the Corn Belt, we must consider the representativeness of growing conditions from 2000 to 2007. Overall, the recent experience in the Corn Belt is likely more favorable than what can be expected over any eight-year period. Although there were regional droughts that affected yields in 2002 and 2005, there has not been a widespread drought in the Corn Belt since 1988. Furthermore, the mechanism by which crop insurance rates are adjusted is based on a rolling 25-year average of losses within each state. The recent good experience in the Corn Belt is slowly making itself felt in lower premium rates for farmers.

However, there is good evidence that production risks are falling much faster than crop insurance rates can adjust because of rapid advances in technology, especially for corn. The recently approved Biotech Yield Endorsement reduces crop insurance rates for Corn Belt farmers who plant certain biotech seeds. This program demonstrates that modern corn hybrids are less risky than assumed by RMA rate-making methods. Today’s corn is much better able to withstand insect infestations, late-season wind damage, excess moisture, and extended dry conditions than corn that was planted 20 years ago. Approval of similar endorsements will be needed to bring Corn Belt insurance rates more in line with risks.

**Alternative Means of Insuring Corn Belt Risks**

The crop insurance industry argues that it needs to generate large underwriting gains in favorable years.

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**Figure 3. Where are the underwriting gains generated?**

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Crop Insurance Services shows that all cost categories but one have largely tracked with general labor markets. The one exception is agent commissions, which track directly with crop prices and premiums in the program. As shown in Figure 3, this means that the commission per written policy has increased from $351 per policy in 2000 to an estimated $1,357 per policy in 2008. The reason for this rise in agent commissions is that under crop insurance rules, companies cannot compete on the prices of policies because these are set by the government. The only way for companies to compete with each other is to vie for agents’ policies. This competition results in changes in taxpayer subsidies being directly reflected in agent commissions.

Note: Policy numbers are calculated from data obtained from the RMA Summary of Business Reports. Commissions are calculated from “Federal Crop Insurance Program Profitability and Effectiveness Analysis, 2007 Update,” prepared on behalf of the National Crop Insurance Services by Grant Thornton LLP.

Figure 3. Agent commission per corn, soybean, wheat, and cotton policy sold

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to generate reserves to cover years with negative underwriting gains. However, farmers in the Corn Belt are beginning to wonder whether crop insurance is such a good deal for them. Why should they be asked year after year to generate large underwriting gains so that the industry will be willing to offer insurance in other states? Why should they keep generating excessive annual agent commissions when they rarely receive payments that exceed their premiums? Since 2000, agent commissions on policies sold to corn and soybean farmers in Iowa, Illinois, and Indiana have totaled more than $933 million, whereas corn and soybean farmers in these three states have paid $768 million more in premiums than they have collected in indemnities.

The initial push in early 2007 by the National Corn Growers Association to include a county revenue countercyclical program in the new farm bill reflected a belief by corn farmers that a reduction in the role of the crop insurance industry as a risk-management middleman would better serve both farmers and taxpayers. Their county program was immediately opposed by the crop insurance industry because it would have dramatically increased the proportion of taxpayer subsidies that would have flowed directly to farmers. Given the results of the analysis shared here, it is clear why their proposal was also attacked by politicians and commodity groups from Great Plains states: reducing participation in crop insurance by Corn Belt farmers would dramatically reduce industry profits, which would threaten the willingness of companies to insure farmers in states where premiums have not kept pace with losses.

It’s possible that an optional state-level revenue countercyclical program will emerge in the new farm bill. However, it would not be surprising if those farmers who opt for this policy will be required to purchase crop insurance. Such a requirement would reflect the influence of industry interests that are aligned with regional interests in maintaining, for as long as possible, the current structure of the program.

Note of Disclosure: The author has worked as a consultant for the National Corn Growers Association estimating the cost of various farm bill alternatives.