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# **Time to Reform the US Federal Agricultural Insurance Program**

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and Barry K. Goodwin**

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**AGRICULTURAL POLICY IN DISARRAY  
REFORMING THE FARM BILL**

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# Executive Summary

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In the past few decades, the federal crop insurance program has become a major source of subsidies for farmers, with more than 300 million acres and 130 crops enrolled in the program. Although a number of other programs faced budget cuts in the 2014 Farm Bill, legislators protected subsidies for the federal crop insurance program from any cuts and expanded the scope of the program.

The total cost of the federal crop insurance program is likely to average about \$8 billion a year over the next 10 years, of which on average about \$5.5 billion a year will flow to farmers, enhancing their incomes, and \$2.5 billion will flow to private crop insurance companies and agents.

In addition to being expensive, the federal crop insurance also encourages farmers to waste resources, is disproportionately targeted to large and successful farm operations that have no need of federal assistance, and has the potential to engage the US in World Trade

Organization disputes with other countries over the trade impacts of US agricultural policy. In light of these problems, some experts argue that the federal crop insurance program should be eliminated, although this option is unlikely to be popular with farmers, insurance companies, and farm state legislators.

A viable alternative is to replace the entire crop insurance program with a “no cost to farmers” disaster aid program based on indexes of plant growth constructed for each covered crop. If the crop insurance program is continued, at the very least, as some legislators and successive administrations have proposed, a costly and heavily subsidized endorsement called the Harvest Price Option should be terminated, with a potential savings in taxpayer outlays of close to \$2 billion. Other changes, such as farm level caps on premium subsidies, reductions in premium subsidy rates, and introducing price competition among insurance companies should also be considered.



# Time to Reform the US Federal Agricultural Insurance Program

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**Vincent H. Smith, Joseph W. Glauber,  
and Barry K. Goodwin**

Once criticized and recommended for elimination, over the past 35 years the federal crop insurance program has become the largest and one of the most popular subsidy programs among farmers. Currently, close to 300 million acres are enrolled in the program, with an estimated participation rate of about 85 percent of eligible area and a total liability (coverage in force) of \$100 billion. Federally subsidized insurance is now available for more than 130 crops, with modest coverage also available for livestock and dairy producers.

The program has expanded from products that offer limited coverage on a farm's crop yields to policies that insure producers' gross revenues, indemnify yield losses at the harvest price when it is higher than at planting time, and provide supplemental policies that allow producers to recapture a portion of the base policy's deductible when losses are widespread in a county. By any measure, federal crop insurance has become a centerpiece of the suite of US federal farm programs, one that requires annual average subsidies in excess of \$8 billion.

The program's current popularity among farmers and farm state legislators stands in sharp contrast to its status 40 years ago. Before the 1980 Crop Insurance Act, the program operated on a limited basis with coverage offered for a limited number of crops in a limited number of counties.<sup>1</sup> The 1980 act

recast crop insurance as a primary means of protecting producers against natural disasters. To encourage participation, standing disaster programs were eliminated, producers were offered subsidies covering up to 30 percent of premium costs, and private companies were enlisted to actively sell insurance coverage to producers (as opposed to the more passive way it had been offered previously through United States Department of Agriculture (USDA) county offices).

After the 1980 act was passed, the program rapidly expanded in county and crop coverage but not in participation, which remained modest. When a widespread drought struck the Midwest and Northern Great Plains in 1988, only 25 percent of the area eligible for coverage was enrolled nationwide, prompting large ad hoc disaster assistance from Congress. Many perceived the crop insurance program as a failure, so much so that the Bush administration recommended eliminating the program and returning to a standing disaster program as part of its 1990 Farm Bill proposal.

Instead, Congress passed additional legislation in 1994 and 2000 that increased premium subsidy rates to an average of more than 60 percent of the premium costs. Participation then expanded. Producers enrolled more of their crop area in the program, and many chose higher levels of insurance coverage. As a result, by 2015 average coverage levels were

more than 70 percent of expected yields or revenues. Penetration levels for crop insurance have been sufficiently high to obviate the need for supplemental disaster assistance. As an example, consider the 2012 drought, which was a weather event widely viewed as more severe than the 100-year drought that struck the Midwest and Northern Great Plains in 1988. Crop insurance indemnities in 2012 totaled more than \$17 billion, but in contrast to 1988, Congress refrained from passing ad hoc legislation.

Perhaps the greatest testament to the federal crop insurance program's popularity is that the program was sheltered from budget cuts in the 2014 Farm Bill when other programs, such as the Direct and Counter-cyclical Payment Program, were terminated or, like the Supplemental Nutrition Assistance Program and Conservation Reserve Program (CRP), were reduced in scope. In contrast, Congress added new insurance programs, such as the Supplemental Coverage Option and a cotton-specific program known as the Stacked Income Protection Plan, and mandated the development of new revenue insurance policies for peanut producers and margin insurance for rice producers.

Crop insurance will be a major focus in the upcoming farm bill. With an expected annual budget of almost \$8 billion, the initiative will likely remain the largest farm program in federal government spending. Since the mid-2000s, Republican and Democrat administrations have proposed cutting premium subsidies or reducing delivery costs in their annual budget submissions, but Congress has rejected those calls. With tighter federal budgets on the horizon, crop insurance will likely receive renewed scrutiny.

In addition, the program has been criticized for providing subsidized coverage for risks that arguably are better managed by private-sector products. Under the Federal Crop Insurance Act, approved insurance products are not supposed to crowd out products available in commercial markets. In spite of this mandate, the most popular insurance product, revenue insurance, offers subsidized price protection in the event of yield loss—coverage that is readily available through well-established organized private futures market exchanges.

Understandably, such subsidized coverage is popular with producers, but it is costly and arguably, because of subsidies, serves as a vehicle for providing price support to corn, cotton, wheat, and other major row crops rather than serving as safety net protection for farmers. Moreover, heavily subsidized crop insurance has been shown to affect crop choice and production practices and lead to shifting highly erodible lands from pasture and grazing to crop production. Those impacts have generated environmental and trade concerns.

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## **Heavily subsidized crop insurance has been shown to affect crop choice and production practices and lead to shifting highly erodible lands from pasture and grazing to crop production.**

Lastly, the delivery system for the federal crop insurance program needs to be reevaluated. One of the goals of the 1980 act was to privatize delivery to the maximum extent possible. In response, the federal crop insurance program created incentives to encourage that shift.<sup>2</sup> Private companies have taken on some underwriting risks, but delivery costs are large and account for about one-third of the total expected outlays for crop insurance over the next 10 years. The crop insurance industry has defended those costs, arguing that expenses have outstripped reimbursements and that profitability measures in the crop

insurance industry lag comparable measures faced by other property and casualty lines of insurance. Others have advocated more competition among companies by allowing companies to compete directly on rates.<sup>3</sup>

### The Evolution of the Federal Crop Insurance Program

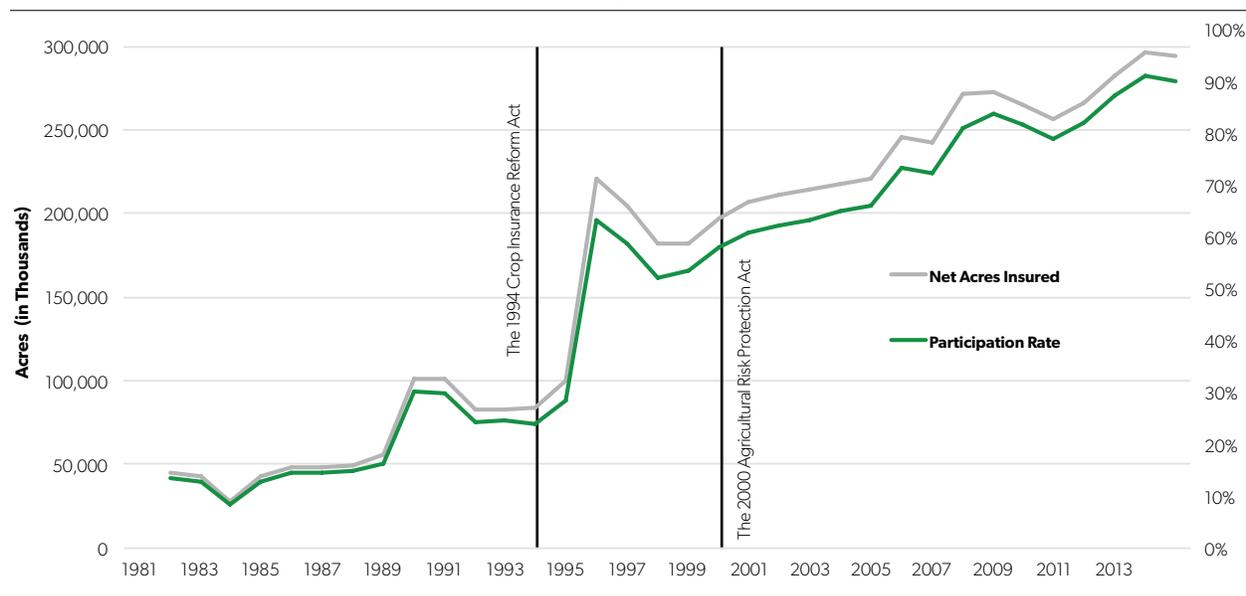
The federal crop insurance program’s evolution from a relatively small-scale, low-cost component of USA farm subsidy initiatives to the most expensive subsidy program available to US farmers can be traced back directly to the 1980 Crop Insurance Act. In 1980, farmers insured 45 million acres (13 percent of total crop acres) through a program that offered coverage for 29 crops under one type of insurance policy, yield insurance (see Figure 1 and Figure 2, which present data on insured acres, program participation rates, numbers of crops covered, and numbers of county-based programs for specific crops). By 2015, farmers were insuring 295 million acres through separate programs for more than 130 agricultural commodities under more than 20 different types of yield, revenue, margin, whole farm, and other insurance programs.

Government spending on crop insurance subsidies also increased as participation increased because of higher premium subsidy rates that substantially reduced farmers’ costs of acquiring coverage (Figure 3). In 1981, federal crop insurance program subsidies were \$84 million; by 2014, those expenditures had increased by more than eightyfold to \$7 billion in 2014 and accounted for more than 30 percent of total federal spending on farm subsidy programs. In 2012, at their peak, subsidy outlays were \$13 billion, accounting for about 50 percent of total federal spending on farm subsidies. Those outlays are expected to average \$7.7 billion annually over the next 10 years.<sup>4</sup>

Before 1980, government subsidies had been limited largely to funding administrative and operating (A&O) expenses,<sup>5</sup> although there were relatively short multiyear periods when indemnities persistently exceeded farmer-paid premiums and the government served as reinsurer. Premium rates that farmers paid were supposed to be actuarially fair; that is, on average, farmers’ payments into insurance pools were to cover the indemnity payments they received.

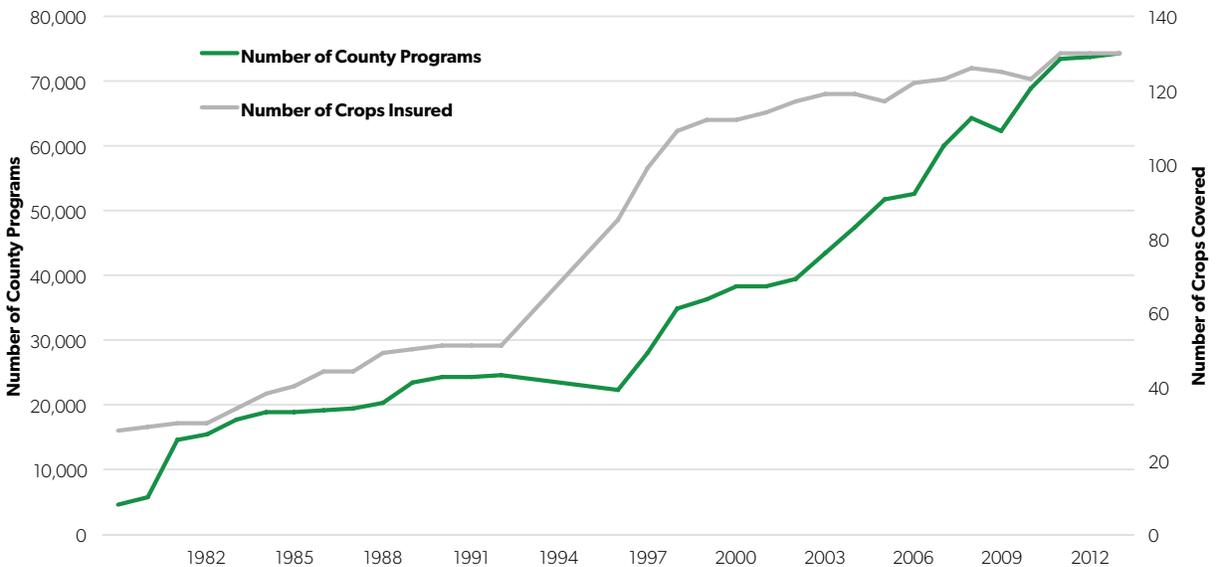
However, the 1980 Crop Insurance Act explicitly mandated that farmers receive premium subsidies. The targeted premium subsidy rate was 30 percent

**Figure 1. Total Acres Insured and Estimated Program Participation Rates, 1981–2014**



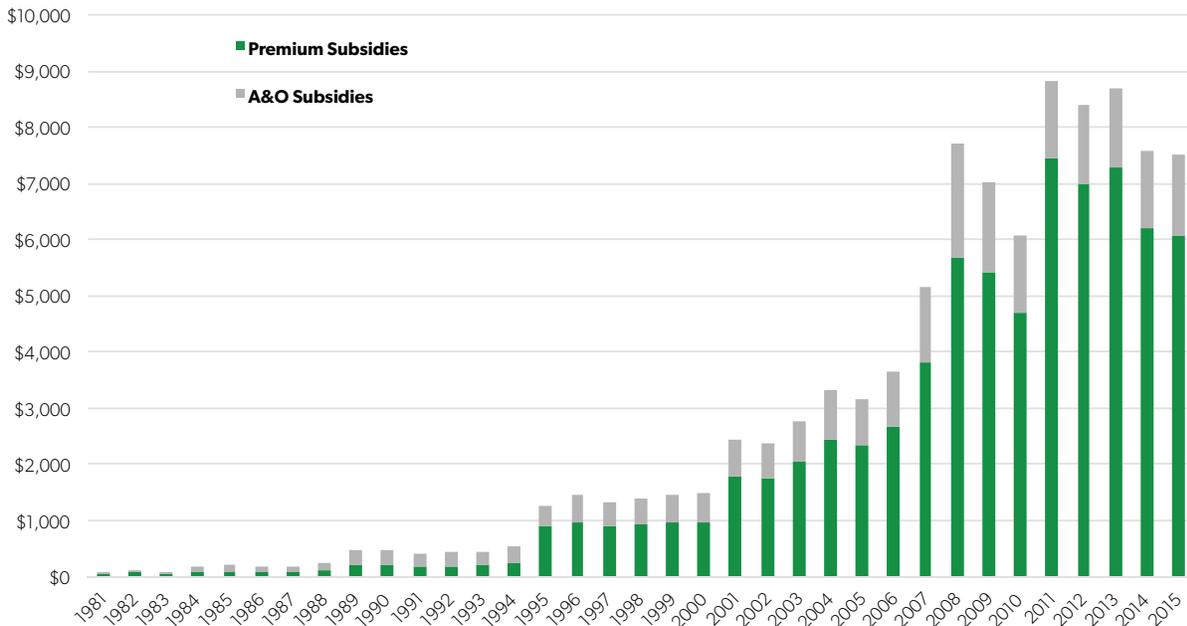
Source: The annual data on insured acres were obtained from the USDA Risk Management Agency, and program participation rates were computed by the authors using USDA National Agricultural Statistics Service annual data on total area planted to crops.

Figure 2. Numbers of County Programs and Covered Crops, 1981–2014



Source: USDA Risk Management Agency.

Figure 3. Government Expenditures on Premium Subsidies and Administration and Operations Subsidies, 1981–2015 (\$ Millions)



Source: USDA Risk Management Agency.

so, beginning with the 1981 crop year, on average farmers would pay only 70 percent of the actuarially fair premium.<sup>6</sup> The argument for introducing a 30 percent premium rate subsidy was as follows. In the 1970s, Congress had responded to successive appeals for help from farm groups through standing disaster assistance payments. Such payments were direct transfers from taxpayers to farmers, providing the agricultural sector with around \$700 million a year during that decade,<sup>7</sup> and they involved no contributions by farmers. Thus, it was claimed, providing farmers with an incentive to participate in the crop insurance program would (1) allow Congress to ignore requests for disaster aid funds and (2) result in farmers providing a substantial share of the funds that would be distributed when they experienced substantial crop losses.

Neither of these assertions turned out to be correct. Participation in the federal crop insurance program had been modest before 1980, partly because of geographic constraints on available coverage and the limited number of crops for which federally subsidized crop insurance was available. However, the main causes of low participation rates were related to adverse selection issues—rates were set based on expected county-wide average losses, and many farmers had much lower expected losses<sup>8</sup>—and the availability of much less expensive ways of managing production risks.<sup>9</sup>

The 30 percent premium subsidy the 1980 legislation introduced was too small to have much effect on participation. And the program's rapid expansion in geographic coverage and numbers of covered crops illustrated in Figure 2 also did not have any measurable impacts. Participation in the federal crop insurance program remained less than 30 percent of the area eligible for coverage until 1989 and only increased then because of a requirement that farms without insurance coverage would not be eligible for any disaster aid payments (see Figure 1). As a result, Congress continued to allocate substantial funds for ad hoc disaster assistance throughout and well beyond the 1980s. By the end of the 1980s, participation in the federal crop insurance program had failed to increase substantially, and ad hoc disaster aid payments continued to be a burden for Congress. Farm

and insurance industry lobbies therefore pushed for increased subsidies and found sympathetic ears among senators and representatives from farm states. They were successful in obtaining increased taxpayer funds through the provisions of the 1994 Crop Insurance Reform Act (CIRA), which increased premium subsidy rates to an average of about 40 percent.

In addition, in the early 1990s farm interest groups had been seeking an expanded array of insurance products. Two themes dominated discussions over crop insurance products at that time. First, many farm groups argued that their members needed cost of production insurance. However, until a margin insurance program was approved on a pilot or quasi-experimental basis by the Federal Crop Insurance Corporation (FCIC) Board in 2015, their lobbies were unsuccessful in achieving that goal.

From a public policy perspective, their failure was a positive outcome. It is essentially impossible to meaningfully estimate the actual costs of production of any business, never mind a farm where household and production-related outlays are typically inextricably intertwined. Moreover, insuring a farmer's actual costs of production encourages moral hazard and even fraudulent behavior by discouraging farmers from minimizing those costs. When, eventually, the USDA Risk Management Agency (RMA) offered a margin insurance product in 2015, the product was based on futures prices for crops and inputs and not on actual farm-specific expenditures, thus mitigating some of the moral hazard concerns.

The second theme was a push for revenue insurance products. Up to 1994, farmers' estimated expected per-acre yields had been insured. Now farm interest groups sought insurance against reductions in per-acre revenues. Such insurance was authorized by the 1994 CIRA and introduced for crops such as corn, for which viable futures markets existed, or for crops whose prices were closely linked to those of other crops with futures markets (for example, barley). By 1997, revenue insurance products had been created for major commodities such as corn, soybeans, and wheat and for smaller acre crops such as barley, and they were relatively heavily used.

With the 1994 CIRA-mandated increases in premium subsidies and the expanded portfolio of products for the most heavily insured crops, participation in the federal crop insurance program modestly increased between 1994 and 2000. By 1997, farmers insured about 60 percent of the crop area eligible for coverage (Figure 1), and coverage levels remained low, with many insuring only at the lowest catastrophic level. However, as part of its response to low prices for major row crops such as corn and wheat that began in 1998, Congress passed supplemental legislation, which provided additional premium subsidies for the 1999 and 2000 crops, and then, in 2000, passed the Agricultural Risk Protection Act (ARPA) that further expanded premium subsidies for farmers.

The new schedule of subsidies resulted in farmers receiving subsidies that average 62 percent of the estimated actuarially fair premium rates. In response, since the early 2000s, farmers have increased their participation in the federal crop insurance program to the extent that between 85 and 90 percent of the crop area eligible for insurance is covered. This is not a surprise. The average risk-neutral farmer can expect to receive more than \$2 back for every dollar he or she spends buying federal crop insurance; risk-averse farmers enjoy even larger benefits.

The 2000 ARPA also included an important feature through which the price risk associated with a Harvest Price Option (HPO) endorsement to revenue insurance would be subsidized. The HPO, originally made available to farmers in 1996, works as follows. A standard revenue contract establishes the expected revenue per acre for a farm at the time coverage is purchased (just before a farmer plants the crop) by multiplying the farm's expected yield based on the farmland's actual production history (APH) with the price expected for the crop at harvest time, several months later.

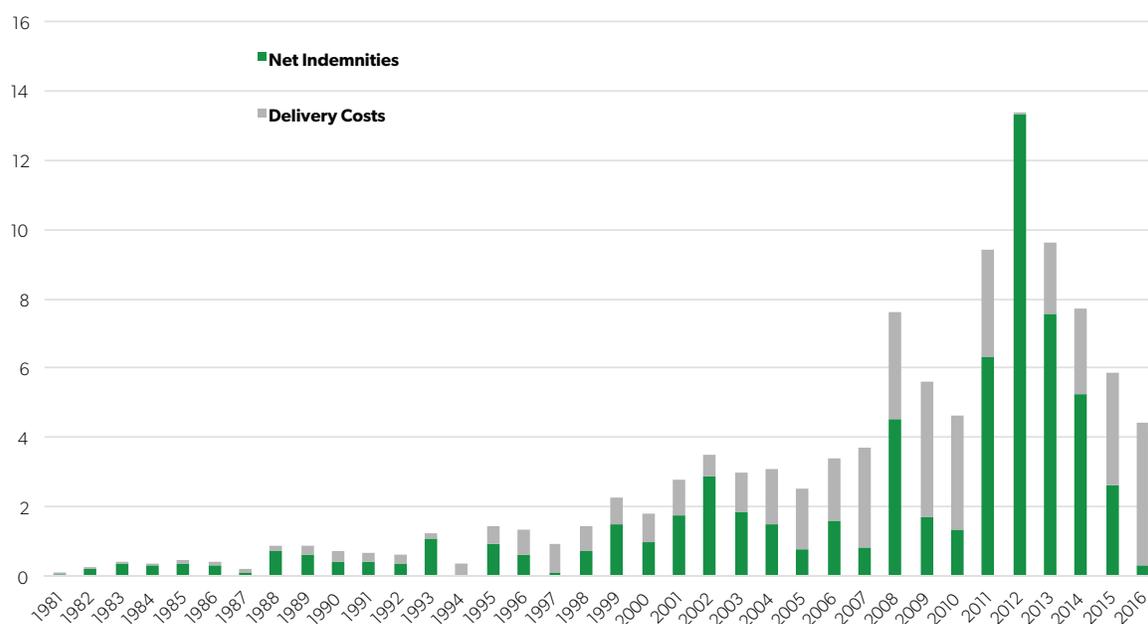
The HPO endorsement increases the price at which production losses will be valued when, between planting time and harvest time, crop prices have increased. Expanding the premium subsidy to the HPO in 2000 resulted in a rapid shift into revenue insurance, and since 2002 about 70 percent of all subsidized crop insurance coverage has been in revenue insurance,

including the HPO. A recent Congressional Budget Office (CBO) analysis<sup>10</sup> reported that ending the HPO subsidy would reduce taxpayer outlays on the federal crop insurance program by about \$1.9 billion annually, almost 25 percent of total estimated federal spending on the program.

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## **The average risk-neutral farmer can expect to receive more than \$2 back for every dollar he or she spends buying federal crop insurance.**

Information on government expenditures on the federal crop insurance program is presented in Figure 3 for the period 1980 to 2015. These data include expenditures on explicit premium subsidies (the share of total payments into the insurance pools the federal government made on the farmers' behalf) and subsidy payments to the insurance companies for administration and operations costs. Government outlays also include expenditures by the government agency that manages the crop insurance for research, product development, personnel, and other cost items, such as computers and facilities. Those costs currently amount to about \$100 million a year. Total annual government expenditures on the program are presented in Figure 4. These expenditures include all delivery costs (A&O subsidies and expenditures on RMA and FCIC operations) and net indemnity payments by the government (total indemnities minus the sum of producer premium payments and any underwriting losses shared by the private insurance companies). Government net indemnity payments may exceed or fall short of premium subsidies in any given year because of year-to-year unpredictable differences in actual indemnifiable losses.

**Figure 4. Total Annual Government Expenditures on the Federal Crop Insurance Program (\$ Billions)**

Source: USDA Risk Management Agency.

The information on annual program costs presented in Figure 3 and Figure 4 provides an additional set of measures of the growth of the US crop insurance program. From small beginnings in 1981, when total government premium and A&O subsidies amounted to \$54 million, those subsidies increased to a maximum of \$8.8 billion in 2011, moderated a little to \$7.5 billion in 2015, and were forecast by the CBO to average about \$8.5 billion a year over the next 10 years.<sup>11</sup> Premium subsidies increased as program participation expanded modestly between 1981 and 1995, and the number of crops covered also expanded, with costs rising from \$54 million in 1981 to \$200 million in 1993 at an average annual growth rate of 12.6 percent. However, over the period, the subsidies for A&O outlays rose more rapidly, increasing from \$4 million in 1981 to \$34 million in 1983, as private companies began to market subsidized crop insurance products, and then to \$234 million by 1993 at an annual average growth rate of 19.1 percent between 1983 and 1993.

Spending on premium subsidies increased more rapidly between 1994 and 2000, rising from

\$255 million to \$951 million at an annual growth rate of 10 percent, as participation increased in response to the higher premium subsidy rates introduced in 1994. Expenditures on A&O subsidies also increased, doubling from \$282 million in 1994 to \$552 million in 2000, but at a slower rate than premium subsidies because A&O subsidy rates were reduced from 33 percent of total premiums in 1993 to 31 percent in 1995 and 27 percent in 1997.

After 2000, when premium subsidies increased to an average of 62 percent and were extended to the HPO, premium subsidies rose quickly, increasing from \$951 million in 2000 to \$2.7 billion in 2006, largely because of expanded participation but also because prices for crops such as corn and wheat began to increase. They then surged, rising to \$7.3 billion in 2013 largely because of increases in crop prices as liability is essentially proportional to crop prices for any given crop insurance contract.

Since then, as prices for the most heavily insured crops have moderated, premium subsidies have also moderated, falling to \$6.1 billion in 2015. Subsidies for company A&O expenses also increased rapidly

and at a somewhat similar rate to the increases in premium subsidies between 2000 and 2008 because payments were proportional to total premiums, as to a large extent were premium subsidies. However, after 2010, A&O payments became subject to an effective cap of about \$1.4 billion as congressional members became concerned about the total revenues earned by the companies relative to the numbers of policies being serviced.<sup>12</sup>

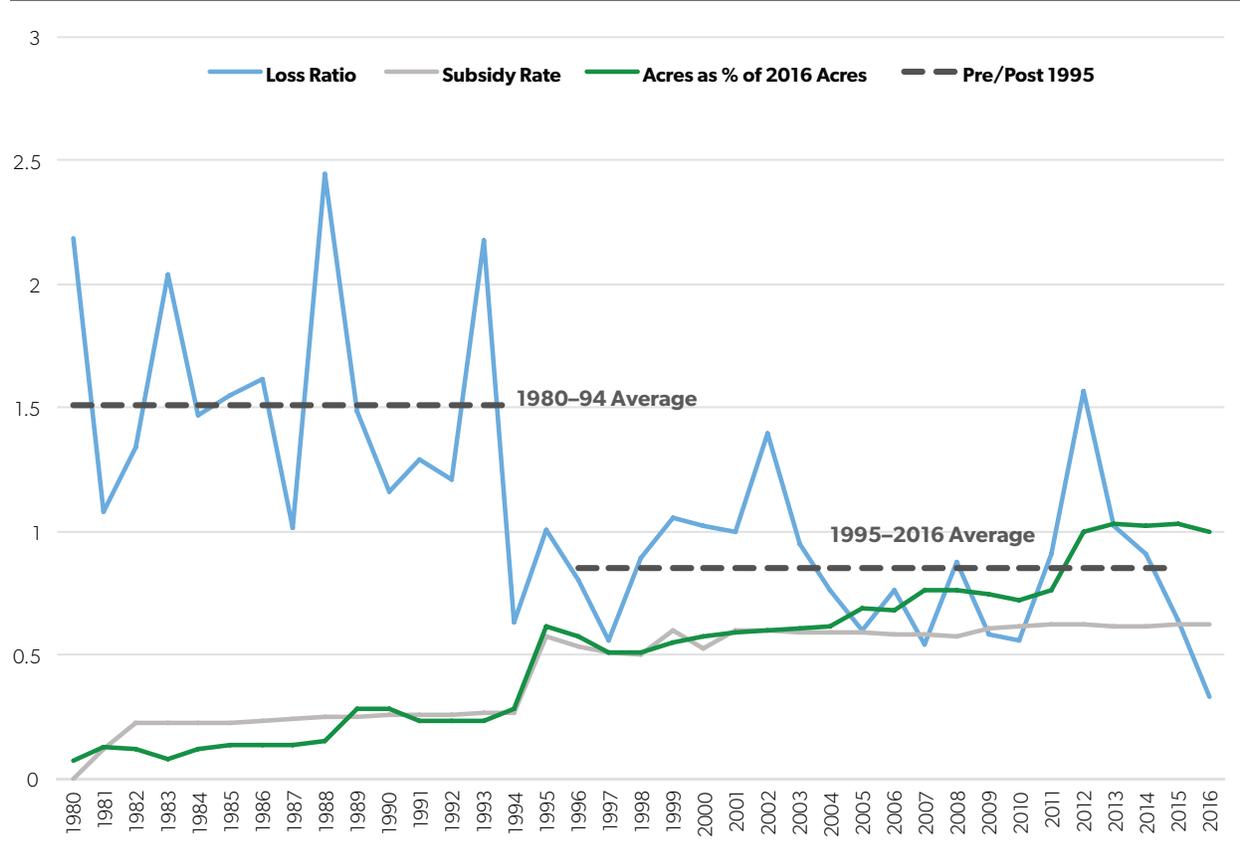
### Premium Rates and Crop Insurance Program Participation

An important characteristic of crop insurance programs around the world is that significant premium subsidies are required to induce farmers to participate in them. This has proved true across a wide range

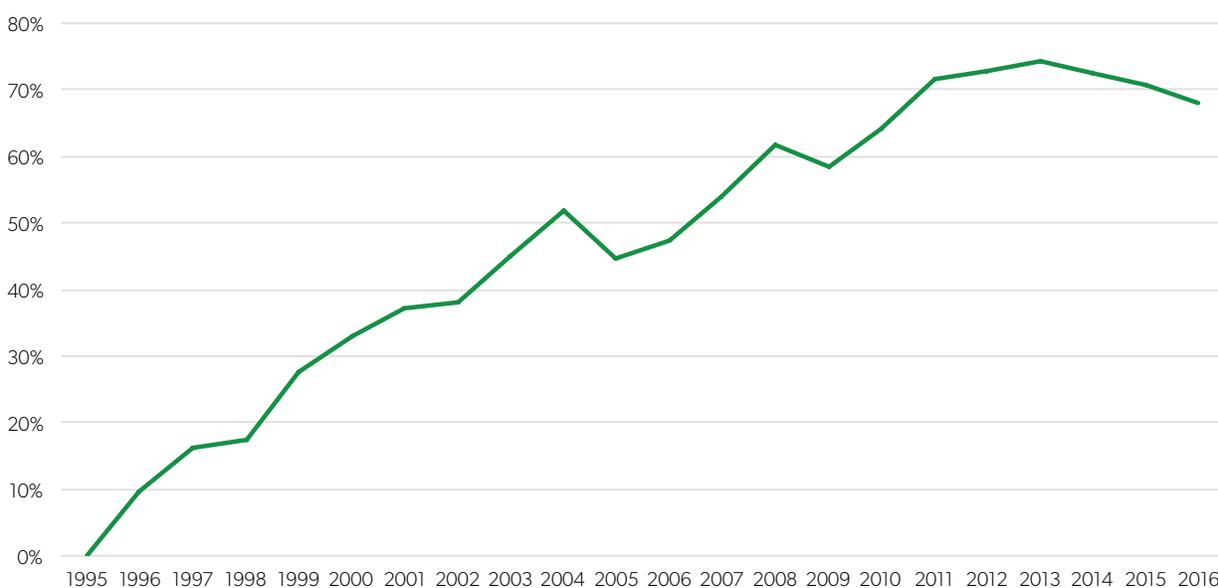
of programs, including highly developed programs such as those found in the US and other developed countries and new programs intended to help subsistence farmers in parts of Latin America, Asia, and Sub-Saharan Africa. At first glance, this seems to be a paradox in that conventional theories of producer behavior under risk typically assert that risk-averse agents will fully insure at actuarially fair premium rates. However, a wide range of willingness-to-pay studies indicate that farmers are unwilling to pay very much at all for risk protection through crop insurance,<sup>13</sup> and adverse selection issues are almost impossible to solve through product design. Thus, to obtain any degree of participation, farmers must be paid to buy crop insurance if any measurable degree of participation is to be obtained.

Figure 5 presents a summary of the development of the US federal crop insurance program over the past

**Figure 5. Summary Statistics for the US Federal Crop Insurance Program**



Source: Annual data obtained from the USDA Risk Management Agency. Summary statistics computed by the authors.

**Figure 6. Proportion of Liability in Revenue Coverage**

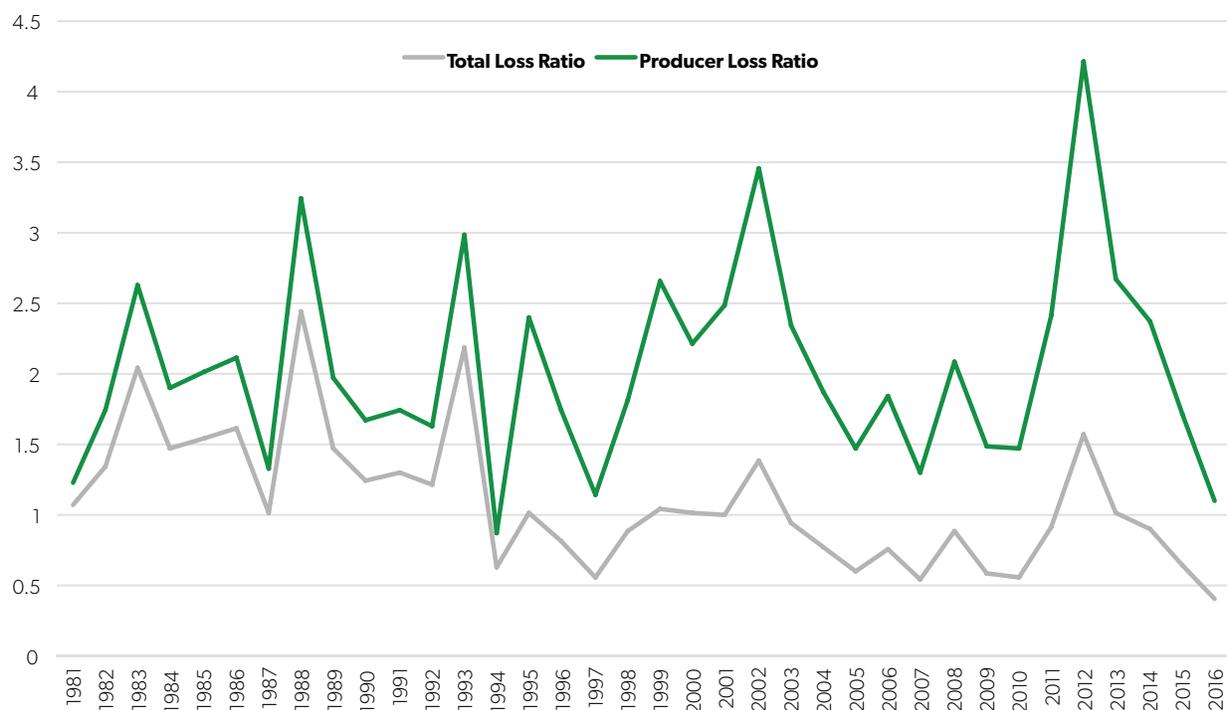
Source: USDA Risk Management Agency.

35 years. The diagram presents the annual average loss ratio (the ratio of indemnities to premiums), the implicit premium subsidy rate (the ratio of premium subsidies to total premium), and a measure of total program participation (given by total enrolled acreage as a proportion of acreage in 2016). Several points are notable. First, participation tracks premium subsidies closely. The impacts of the increased subsidy the 1994 CIRA mandated were substantial. Acreage enrolled in the program increased significantly in 1995. However, 1995 is unique in that, under a provision of the 1994 act, participation in the program was required for a farm to be eligible for other agricultural program benefits. This requirement, which proved to be unpopular with growers, was quickly rescinded, and a large decrease in acreage enrolled in the program occurred in 1996. Participation in total acreage increased throughout the decades that followed.

Another fact, not immediately obvious from the diagram, is that the nature of coverage shifted significantly throughout the late 1990s and 2000s. Revenue coverage was introduced in 1996 and quickly became the most prominent form of insurance. Figure 6 illustrates the proportion of total liability in the federal crop insurance program that is accounted for by

revenue coverage. Increases in participation over the 1995–2005 period reflect the increasing availability of revenue coverage, which has proved to be preferred by farmers.

Finally, the actuarial performance of the program, defined as the program's overall total loss ratio, appears to have improved as subsidies were increased and participation levels rose. In the early 1980s, acres enrolled in the program were about 12 percent of the 2016 levels. Over that 36-year period, in the program's total loss ratio, the program's actuarial performance appears to have improved. From 1981 to 1994, the gross loss ratio (defined as total indemnities divided by total premiums collected, including premium subsidies) averaged 154 percent. Since then, the total loss ratio has averaged about 82 percent. However, as shown in Figure 7, producer loss ratios, defined as indemnities paid divided by producer-paid premiums, did not substantially change, averaging about the same over the entire period—throughout the entire period on average producers have received about \$2.20 in indemnities for every dollar paid in premiums. A clear implication is that, when participation rates were low, only the individuals whose premium rates were underpriced were choosing to insure their

**Figure 7. Total and Producer Loss Ratios, 1981 to 2015**

Source: Data on premiums and indemnities were obtained from the USDA Risk Management Agency, and loss ratios were computed by the authors.

crops, but when increases in subsidies and changes in the types of offered insurance products triggered increased participation, the actuarial performance of the program, as measured by the total loss ratio, improved.<sup>14</sup>

This is consistent with the death spiral of adverse selection. Decreases in the cost of insurance to purchasers of coverage expands the insured pool and relative to total payments into the pool from all sources (farmers and the federal government), simultaneously lowers the overall risk of the pool. The historical data certainly suggest that participation is responsive to farmer-paid premiums and that lower-risk individuals will likely have a more elastic response to changes in premium rates.

These diagrams reflect some of the basic challenges associated with determining producer responses to changes in premium rates. The program has undergone significant changes over its history. The revenue coverage that is so prominent today was not

available before 1995. It is also the case that many other institutional factors have changed over time in ways that have affected participation in the programs. Production technologies have undergone significant changes. These changes include genetic modification, precision planting, and harvesting methods, as well as the development of improved inputs such as pesticides, herbicides, and fungicides. Such technological advances have certainly affected the risk that underlies crop production.

The demand for crop insurance and the response to premium rate changes have been frequent topics of empirical research. Barry Goodwin found that higher-risk farmers had a much less elastic demand than lower-risk farmers, again confirming the potential for a death spiral from adverse selection.<sup>15</sup> Richard Just, Linda Calvin, and John Quiggin found that risk aversion does not appear to be a significant factor influencing insurance demand.<sup>16</sup> In subsequent work, Goodwin, Monte Vandever, and John Deal,

as well as Erik O'Donoghue, confirmed that demand is responsive to premium changes and that increasing premium subsidies will increase participation in the program.<sup>17</sup>

Further, O'Donoghue and Sarah Tulman present a summary of research that has attempted to estimate an elasticity of insurance demand. They note that nearly all existing research, including research from the early years of the modern program, tended to find relatively inelastic responses to premium (and thus to subsidies). They also find inelastic responses to premium changes, with elasticities of demand falling between  $-0.1$  and  $-0.8$ . They do find a more elastic demand for soybeans in some specifications.<sup>18</sup> Finally, Jisang Yu, Aaron Smith, and Daniel Sumner report demand elasticities of about  $-0.2$ , a finding consistent with earlier studies.<sup>19</sup>

The elasticity of demand will play an important role as farmers react to any changes in the federal crop insurance program under the upcoming farm bill. The consensus of the empirical literature seems to be that responses to premium changes are inelastic, potentially suggesting that policy changes that reduce premium subsidies will decrease participation, although in an inelastic fashion. This may suggest that policy changes that reverse some of the large subsidy increases that affected crop insurance after 1995 may not necessarily lead to participation levels like those observed in the 1980s.

However, it is important to emphasize just how much the program has changed since then, potentially making existing research of limited relevance to understanding future program changes. Farmers have shown an obvious preference for revenue protection (with the harvest price replacement option). If subsidies on the higher risk associated with the HPO were reduced or eliminated, as some policy observers have predicted, participation levels in revenue insurance could drop substantially and shift back to pre-2000 levels. As Goodwin, Vincent Smith, and Alan Baquet showed, reductions in subsidy rates that shift some farmers from having positive net expected returns to negative net expected returns from crop insurance could reduce participation in the program substantially, even though overall demand appears to

be relatively price inelastic.<sup>20</sup> For example, if subsidies were rolled back to pre-1994 levels at about 30 percent of the actuarially fair premium, participation rates seem likely also to drop back, perhaps to pre-1994 levels.

## Effects of Premium Subsidies on Farm-Level Production Decisions

The growth of the crop insurance program has led to concerns that premium subsidies are distorting cropping decisions and encouraging production in marginal areas. Empirical work has focused primarily on the effects of the US crop insurance program on planted areas and the effects of insurance on input use. Early research by JunJie Wu suggested that farms that purchased insurance were more likely to produce soybeans and less likely to produce forage crops, which, in turn, Wu argued would lead to increased chemical use.<sup>21</sup>

Edwin Young, Vandever, and Randall Schnepf found that planted acreage for major field crops was only 0.4 percent higher due to subsidized insurance. Increased plantings of wheat and cotton accounted for about three-fourths of the increase.<sup>22</sup> Goodwin, Vandever, and Deal examined midwestern corn and soybean producers and wheat and barley producers in the Northern Plains and found that a 30 percent decrease in premium costs were likely to increase barley acreage by about 1.1 percent and corn acreage by less than 0.5 percent.<sup>23</sup> Soybean and wheat acreage responses were statistically insignificant.

Several studies have examined the effects of crop insurance on broader land-use patterns such as conversion of pastureland to cropland. Ruben Lubowski et al. concluded that the increase in crop insurance subsidies changed land use measurably, but modestly.<sup>24</sup> The change in premium subsidies in the mid-1990s was estimated to have increased cultivated cropland area in 1997 by 2.5 million acres, or 0.82 percent, with the bulk of this land (1.8 million acres) coming from uncultivated crops and pasture. That estimate rose by about 380,000 acres when shifts from forests, range, and CRP land were included. Lubowski, Andrew

Plantinga, and Robert Stavins concluded that government payments caused a 2 percent increase in planted area between 1982 and 1997.<sup>25</sup> However, this increase was more than offset by land put into the CRP. The analysis did not differentiate between insurance payments and other price and income-support payments.

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## Three percent of insured land in the Prairie Pothole Region would have remained as grassland if there had been no crop insurance subsidies.

Some recent analyses have focused on land use in the Northern Plains states, in particular the so-called Prairie Pothole Region, where conversion of pasture and rangeland to cropland over the past 20 years is evident. Studies by Roger Claassen et al. and Claassen, Joseph Cooper, and Fernando Carriazo found evidence that crop insurance increased the conversion of grassland to cropland, although the impacts were generally small.<sup>26</sup> Feng, Hennessy, and Miao found that over the period 1986 to 2011, higher crop insurance participation contributed to a reduction in acres offered under the CRP.<sup>27</sup> Similar results from Miao, Hennessy, and Feng suggest that 3 percent of insured land in the Prairie Pothole Region would have remained as grassland if there had been no crop insurance subsidies.<sup>28</sup> More recently, Ethan Ligon analyzed the impact of crop insurance on specialty crops and concluded that the introduction of crop insurance had a large and positive impact on tree crops but a negligible impact on nontree crops.<sup>29</sup>

Goodwin and Smith have questioned whether the results of earlier studies are still relevant given

that subsidy levels are much higher now than when the earlier research was conducted and that revenue policies have largely replaced yield coverages.<sup>30</sup> For example, the Goodwin, Vandever, and Deal study examined the effects of insurance subsidies over the period 1986–93,<sup>31</sup> before enactment of major legislation in 1994 and 2000, which dramatically increased subsidy levels, and before the introduction of revenue insurance.<sup>32</sup> In 1993, government subsidies as a percentage of total premium costs averaged 25 to 27 percent for the crops examined in the study compared to 60 to 63 percent for those crops in 2014. Average subsidies ranged from \$1.33 to \$2.12 per acre in 1993, compared with \$15.12 to \$27.70 per acre in 2014.

Recent studies by Cory Walters et al. and Claassen, Christian Langpap, and Wu find negligible effects of crop insurance on land use, although the latter reported more significant impacts on crop choice and crop rotation.<sup>33</sup> Yu, Smith, and Sumner also found significant effects on area, although the effects were small.<sup>34</sup> Yet, while the levels of support for insurance products have increased substantially, the relative share of subsidies across crops has remained largely the same, at least for those crops that are offered similar types of insurance products. With improvements in ratemaking due in part to the wealth of farm-level data, premium rates are more in line with underlying risks, which means that relative rates should not favor one insured crop over another.<sup>35</sup> Further, since price elections for most of the major row crops are based on futures market prices, per-acre premiums (and subsidies) tend to be correlated with harvest price expectations.

While the general findings from this body of research may appear mixed, several broad conclusions can be drawn. Studies have mostly indicated that crop insurance subsidies have a significant but small effect on the extensive margin; that is, insurance tends to have a positive but small impact on conversion of nonagricultural land to cropland.

Crop insurance likely has larger impacts on crop choice when insured crops compete against uninsured crops or when crops where revenue products are available compete against crops where only yield products are available.<sup>36</sup> Such distortions may become even larger as new products are developed

such as margin insurance and supplemental coverage, particularly if such products are not widely available across crops.

Lastly, the evidence on the impact of crop insurance on input use is related, in part, to the program's effects on crop choice. To the degree that crop insurance shifts plantings toward more input-intensive crops, aggregate input usage may be affected. However, studies of the effects of moral hazard on input usage suggest small impacts that are largely statistically insignificant.

### **Crop Insurance Moral Hazard Incentives: Input Use and Prevented Planting**

The vulnerability of federal crop insurance programs to moral hazard remains an important issue. Moral hazard behaviors occur when agents alter their behavior in ways that change risks of loss after they purchase insurance coverage. Several characteristics of the underwriting provisions of the federal program may actually exacerbate concerns about moral hazard. The ability to insure separately individual units or areas of planted crops in a farm rather than an aggregate unit (the whole farm) has been identified as a possible avenue for cheating because it may be difficult to assign production to a given field, which may be insured individually. Smith and Goodwin found a significant difference in the production practices of Kansas wheat growers who purchased crop insurance relative to their neighbors who did not. Their results suggest that wheat growers with insurance tended to spend about 30 percent less per acre on fertilizer and chemical inputs.<sup>37</sup>

One feature of the all-risk coverage the US federal crop insurance program provides pertains to coverage for prevented planting. This coverage provides indemnity payments if a producer is unable, because of covered perils, to plant the crop before the final planting deadline. Prevented planting coverage was included in the provisions of the 1994 CIRA. Indemnity payments are generally set at 60 percent of the coverage for a planted crop, and producers offered the opportunity to buy up this level of coverage at subsidized premium rates.

A 1996 study by the USDA Economic Research Service (ERS) measured preplanting costs and compared them with the basic level of coverage offered under the federal plan.<sup>38</sup> This evaluation used farm-level cost and returns surveys. The ERS study concluded that prevented planting indemnity payments were far higher than actual preplanting costs. The extent of overpayment varied across crops, with cotton growers receiving the highest payments in excess of actual preplanting costs. That producers can buy this coverage at a heavily subsidized rate suggests that the prevented planting payments may significantly exceed the actual losses. The potential for distortions is obvious. Further, that the total premium is subsidized at a rate exceeding 60 percent suggests even greater returns to a farmer making a prevented planting claim.

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## **The ERS study concluded that prevented planting indemnity payments were far higher than actual preplanting costs.**

Another aspect of prevented planting coverage may result in additional distortions to behavior. Under a regular claim for lost production, a farmer's APH yield for insurance purposes is reduced to account for the loss. The APH yield is determined by the average of the previous 10 years of yield histories. In a prevented planting claim, no penalty to APH is applied. That an indemnity today can mean lower coverage tomorrow certainly is relevant to growers' insurance and claim decisions. Excluding years with prevented planting payments from the history only makes prevented planting claims more attractive to growers.

The way in which prevented planting is designed and managed clearly creates the potential for

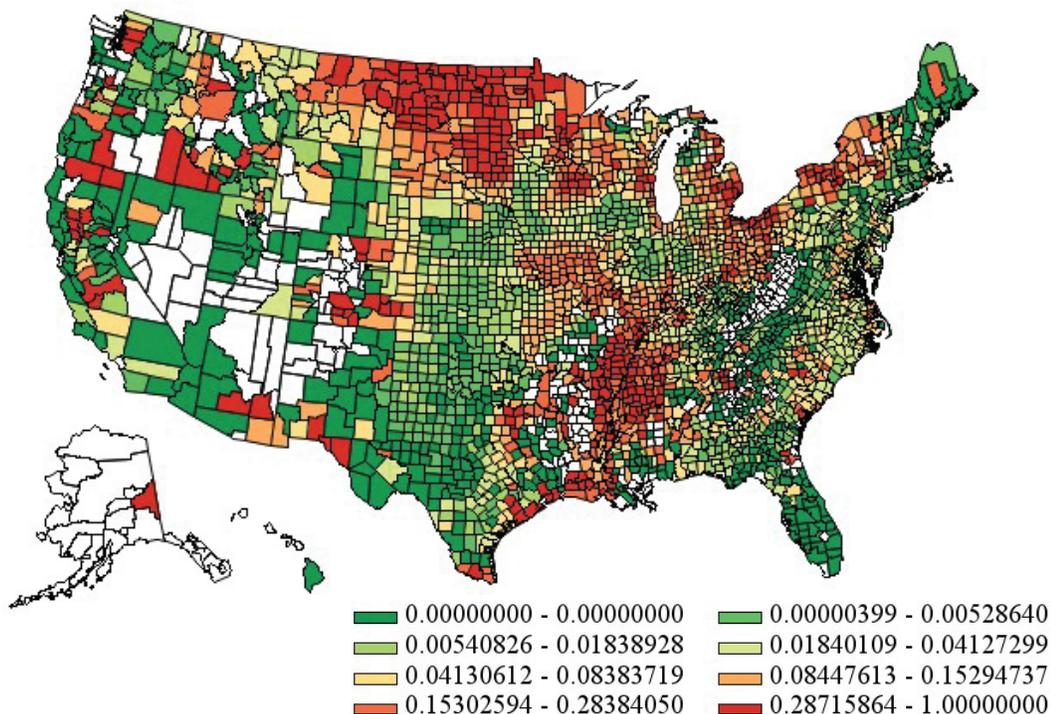
unnecessary claims to be paid. Farmers receive a payment, made even more attractive by large premium subsidies, that substantially exceeds the actual losses they may suffer. Monitoring preplanting costs, many of which are difficult to identify and observe in farm records, may be challenging. Thus, the potential for claims to be made even if no crop was intended to be planted seems substantial. Price changes early in the insurance cycle (after the sign-up deadline but before the crop is planted) may also distort producer decisions regarding planting versus taking a prevented planting payment.

Prevented planting provisions of the federal program were recently reviewed by the USDA's Office of the Inspector General (OIG). The study found that the agency paid about \$4.6 billion in claims to producers who filed claims for being prevented from planting their crops. The review also noted that the payment rates, which were intended to cover all preplanting costs in a conservative manner, are set too high. That producers making a prevented planting

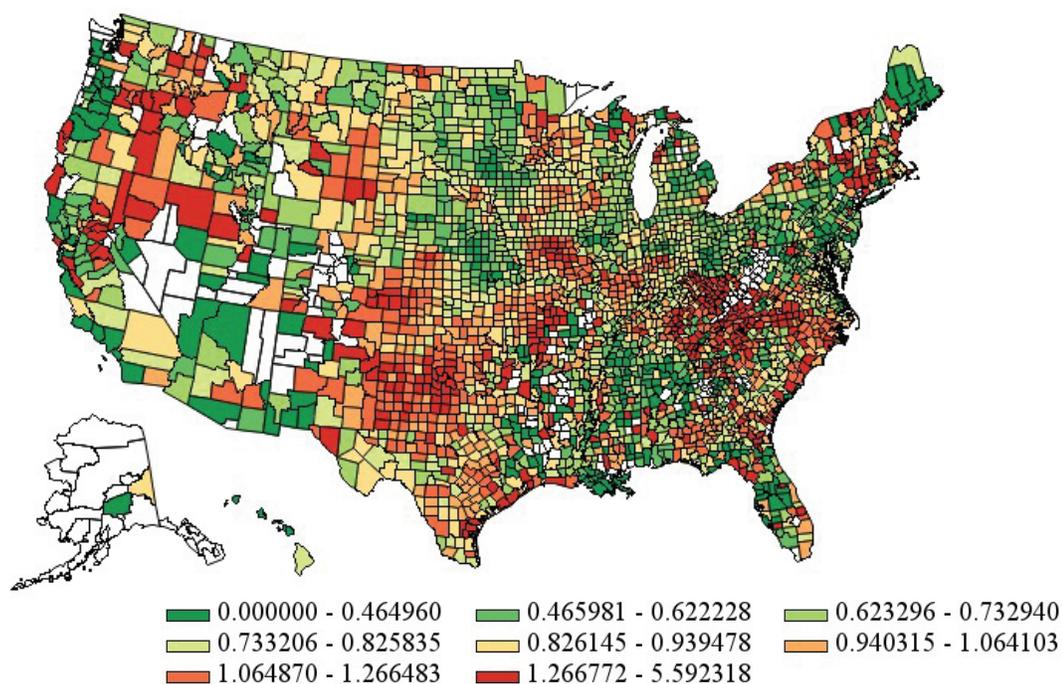
claim do not have their APH adjusted *unless* they plant a second crop also serves as a disincentive to plant a crop in the first place rather than take the claim. The report notes that only 0.1 percent of producers receiving a prevented planting indemnity replanted a second crop on the prevented planting acres.

The OIG review also notes that loss adjustors appeared to violate documentation requirements when assessing prevented planting claims. The OIG reviewed 192 policy claims and found that *none* of those claims included the required documentation and support for the claim. In no case did the loss adjustment records document that the acres claimed would have normally been available for planting. The report notes that the current program guidelines and standards for documenting prevented planting are not practical or workable. It also notes that a workable plan would require loss adjustors to be familiar with the weather history of a specific area to make a determination of what "normal" planting conditions are.

**Figure 8. Prevented Planting Indemnity Payments, 2010–15**



Source: USDA Risk Management Agency.

**Figure 9. Aggregate Loss Ratios, 2000–16**

Source: USDA Risk Management Agency.

It is interesting to consider patterns of prevented planting losses. We used the RMA's cause-of-loss database, which is available from 2010 to 2016, to evaluate the prominence of prevented planting indemnity payments. Figure 8 presents the shares of total indemnities for all crops and insurance plans at the county level accounted for by prevented planting claims. In some areas, such as the upper Great Plains and the Mississippi Delta, a high proportion of total indemnities are paid for prevented planting.

In contrast, the middle Great Plains and Texas appear to have relatively fewer prevented planting claims. Figure 9 presents the average loss ratio across all crops and plans at the county level. The information in Figure 9 illustrates that considerable heterogeneity exists in the actuarial performance of the federal crop insurance program and in the returns to insurance for different producers. The share of indemnities paid as prevented planting claims does not appear to be highly correlated with the overall loss ratio. Areas with the highest loss ratios, such as central Texas and the southeastern US, appear to have a lesser degree

of prevented planting claims as compared with total indemnities.

The moral hazard implications associated with prevented planting insurance in the federal program remain an important area of ongoing research. Weather conditions should explain prevented planting losses. If prices or other factors not related to planting conditions affect prevented planting payments, then moral hazard may exist.

### The Agricultural Insurance Delivery System

The 1980 Crop Insurance Act included a provision to privatize the delivery of federal crop insurance policies that had considerable long-term political implications and resulted in substantial costs for taxpayers. Lobbying by some relatively small insurance companies already offering specific peril coverage against crop losses from hail and fire contributed to including a mandate to shift delivery of federal crop insurance

policies by the private sector instead of through the USDA FCIC.<sup>39</sup> In addition, both Congress and the Carter administration argued that private-sector delivery would be more effective in boosting program participation than under a government agency-based system.

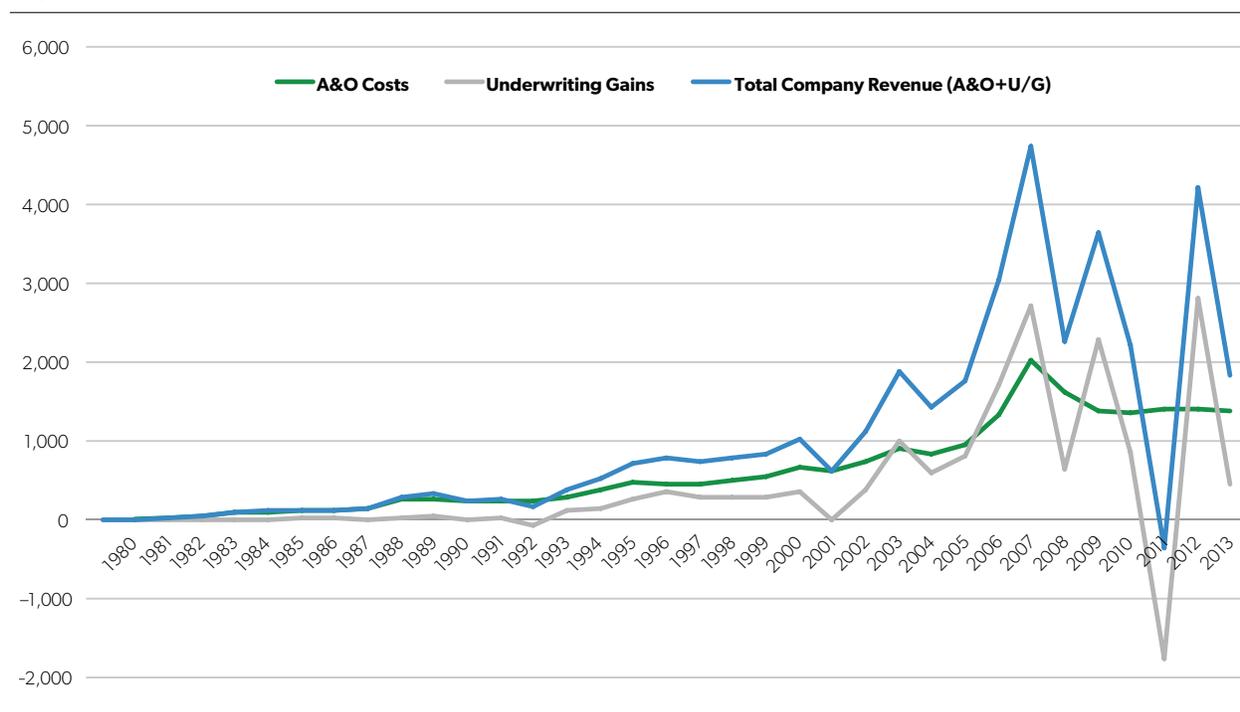
While participation rates have exceeded those envisioned by the 1980 act, that growth has been largely due to increased premium subsidies. Private-sector delivery has proved increasingly costly, as illustrated in Figure 10, which shows the revenues received by the crop insurance industry from the federal program over the period 1980 to 2014. Projected costs for 2018–27 are \$2.3 billion annually and account for about 34 percent of total federal crop insurance expenditures.<sup>40</sup>

In fact, a series of US Government Accountability Office (GAO) reports identified several inherent accountability and efficiency problems associated with allowing private crop insurance companies to manage and receive government funds throughout the 1980s and 1990s.<sup>41</sup> Those reports consistently noted that the private-sector delivery system

was more costly than the public system it replaced, a finding in some ways confirmed in the mid-2000s by Olivier Mahul and Charles Stutley. In their analysis of approximately 80 countries, the US federal crop insurance program ranked as having the delivery system with, by a substantial margin, the highest costs.<sup>42</sup>

One reason why the US delivery system is so expensive is that the insurance industry and farm interest groups have incentives to lobby cooperatively for the program in ways that benefit both groups.<sup>43</sup> Bruce Babcock, for example, showed that crop insurance agents make substantially more than their counterparts in other lines of insurance business, suggesting that substantial economic rents (excess payments over the amounts needed to ensure the services are provided) are accruing to the industry as a whole.<sup>44</sup> Smith, Glauber, and Robert Dismukes also provide econometric evidence that substantial rents accrue to the crop insurance industry.<sup>45</sup> Belasco and Smith pointed out that in 2015 crop insurance companies were paid about \$1 billion (adjusting for any inflation effects) more than they received in 2006 while servicing slightly fewer

**Figure 10. Insurance Company Revenue Streams, 1980–2014 (\$ Millions)**



Source: The authors, based on data obtained from the USDA Risk Management Agency.

insurance policies.<sup>46</sup> Glauber noted that for every dollar of subsidy paid to farmers over the previous decade, insurance companies received 47 cents.<sup>47</sup>

The insurance industry has also consistently claimed that the rates of return they obtain from their federal crop insurance books are unacceptably low, compared with other lines of business such as property and casualty, given the amount of risk they take on.<sup>48</sup> However, the SRA under which they operate requires them to take on only a small part of the risk of losses. As shown in Figure 11, the federal government disproportionately funds most of the annual losses that occur (when indemnities exceed the total premiums paid into the national insurance pool) and receives relatively little in the way of annual underwriting gains (when total premium exceeds total indemnities). For example, in 2012, when total underwriting losses exceeded \$6.4 billion, the government funded about 80 percent (\$5.1 billion) and the companies only about 20 percent (\$1.3 billion) of those losses.

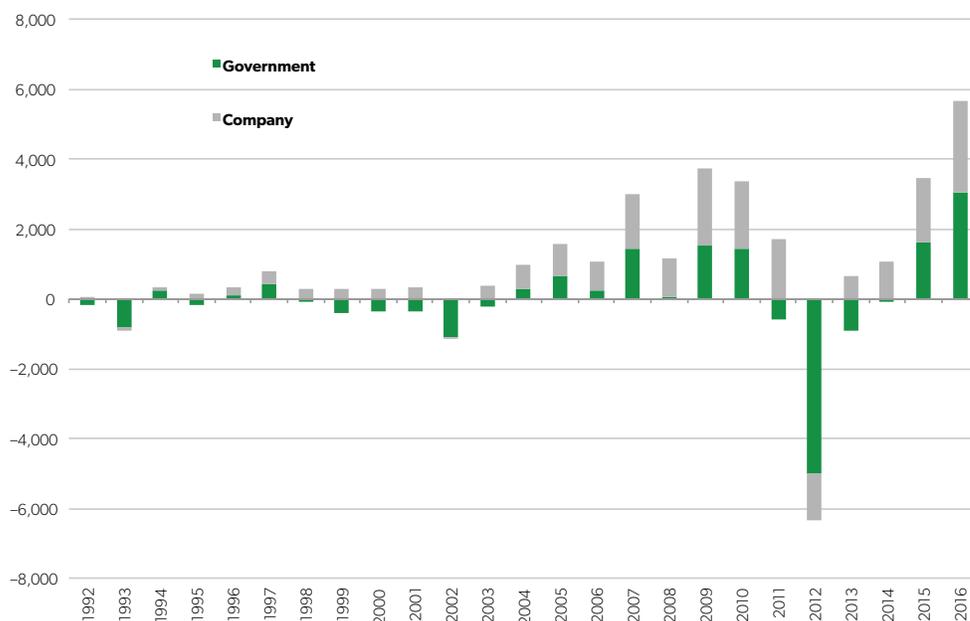
In contrast, in 2013, when the federal crop insurance program experienced a net underwriting loss of

\$265 million, the companies enjoyed net underwriting gains of \$646 million. Meanwhile, the federal government had to pay out an additional \$911 million (over and above premium subsidies) to “cover” both the program’s net underwriting losses and the companies’ net underwriting gains on their “share” of the book of business. This indicates that the companies operate in a relatively risk-free environment under their current standard reinsurance agreement with the federal government and casts some doubt on company claims that their underwriting gains, while positive and over the long run consistently substantial, are too low.

Finally, insurance companies and insurance agents have strongly opposed several commonsense initiatives that would substantially reduce delivery costs. For example, most farmers could simply renew their annual crop insurance coverages by signing up online, eliminating the need for the majority of the services provided by crop insurance agents. However, current legislation prohibits farmers from doing just that.

One approach to reducing delivery costs and premium subsidy costs, as Glauber suggests,<sup>49</sup> would be

**Figure 11. Company and Government Shares of Net Underwriting Gains in the Federal Crop Insurance Program, 1992–2016 (\$ Million)**



Source: The authors, based on data obtained from the USDA Risk Management Agency.

to permit companies to compete for farmers' federally subsidized crop insurance policies through limited premium rate (price) competition. However, given that the federal government is almost surely likely to be liable for any costs associated with company failures and defaults on indemnity payments, moral hazard issues associated with the government's reinsurance role would need to be addressed.

An alternative is to simplify the portfolio of crop insurance products offered to individual farm-yield policies and area-based index products and revert to a publicly managed delivery system in which there is no need for insurance companies to play any role in selling and servicing publicly funded agricultural insurance policies.

### **The US Crop Insurance Program and US World Trade Organization (WTO) Commitments**

Crop insurance subsidies, like other agricultural subsidies, are also subject to discipline under the WTO rules on agricultural domestic support, and there is empirical evidence of program impacts on land-use decisions and crop production. The United States has notified crop insurance subsidies as amber box subsidies under the WTO Agreement on Agriculture.<sup>50</sup> Premium subsidies are currently notified on a product-specific basis.<sup>51</sup> Subsidies to a commodity are included in the Aggregate Measurement of Support (AMS) if the total value of subsidies to a given commodity exceeds 5 percent of the value of production of that commodity; otherwise, they are considered *de minimis* and not included in the AMS. Most crop insurance subsidies are *de minimis* because they do not exceed the 5 percent threshold. In 2014, for example, US crop insurance subsidies exceeded \$6.2 billion of which approximately 70 percent was reported as *de minimis*.

In addition, the US crop insurance program could be vulnerable in the WTO under the Subsidies and Countervailing Measures Agreement. Brazil challenged US crop insurance subsidies for cotton as part of the United States–Subsidies on Upland Cotton

dispute, arguing that the subsidies depressed prices in world markets by encouraging US cotton production. While the panel in the US–Upland Cotton case rejected that argument for crop insurance subsidies, some argue that the case provides a template for future WTO litigation.<sup>52</sup>

### **The Current Legislative Debate**

As is true for many agricultural programs, the considerable taxpayer outlays that the federal crop insurance program demanded are drawing more attention and scrutiny, even outside the agricultural policy arena. Although the approximately \$8 billion spent on the program annually is modest by Washington standards, that many of the program's beneficiaries are wealthy individuals with high incomes has raised questions regarding the necessity of subsidized crop insurance.

Much of this scrutiny is reflected in a March 2015 GAO report “Crop Insurance: Reducing Subsidies for Highest Income Participants Could Save Federal Dollars with Minimal Effect on the Program.”<sup>53</sup> In a series of related reports, the GAO has evaluated the potential savings and impact on farmers of means-testing and subsidy caps on crop insurance subsidies. These reports repeatedly emphasize several findings.

The program directs subsidies to a small but wealthy segment of the US public. Total subsidy amounts are essentially unlimited, resulting in a significant concentration of benefits among a small number of big growers. The delivery system, through what is typically termed a “public-private” partnership, is costly and directs significant benefits to private insurance companies through a favorable reinsurance agreement that limits risk, guarantees returns, and covers A&O costs through subsidies. Finally, the reports have noted that the harvest price replacement feature (widely known as the HPO) inherent in the vast majority of insurance contracts can result in farmers earning more with a significant yield loss than they would had a full crop been made.

These GAO reports reflect only a part of the increased scrutiny that the federal program has received. Popular press articles have picked up on

many of the themes developed in these reports and have illuminated that highly subsidized crop insurance that results in expected returns in excess of \$2 for every dollar paid by a farmer may have perverse distortions and impacts on farmer behavior, realized risk, and taxpayer expenditures.

This scrutiny has resulted in legislation being introduced to limit subsidies and reform the program to ease the taxpayers' burdens. Sens. Jeff Flake (R-AZ) and Jeanne Shaheen (D-NH) and Reps. Ron Kind (D-WI) and Jim Sensenbrenner (R-WI) introduced the Assisting Family Farmers Through Insurance Reform Measures (AFFIRM) Act in 2015. The act proposed to cut the costs of the program through a number of reforms, leading its proponents to argue it would save \$24 billion.

The act would lower the Standard Reinsurance Agreement (SRA) rate of return from 14.5 percent to 8.9 percent, saving taxpayers an estimated \$3 billion. It would eliminate restrictions in the 2014 Farm Bill that prohibit USDA from achieving savings when it renegotiates the SRA. Perhaps most significantly, it would eliminate the HPO feature of revenue insurance, which its sponsors argue would save \$19 billion. Finally, it would limit the total value of crop insurance subsidies to \$40,000 per person each year and end subsidies for those with a gross income of more than \$250,000.

The House and Senate Agriculture Committees quickly buried the bill, but it was reintroduced in May 2017 and again referred to the committees, where it is now subject to debate. Cynics may see little probability in the legislation actually making such changes, but the legislative actions do reflect the greater scrutiny and increased focus on cutting crop insurance subsidies. President Donald Trump's 2017 budget contained nearly all the AFFIRM Act reforms. The administration's proposal includes a \$40,000 cap on subsidies, eliminating subsidies for the harvest price replacement component of revenue insurance contracts, and binding limits on subsidies that would eliminate eligibility for subsidies for farmers with more than \$500,000 in adjusted gross annual income.

The likelihood that such changes will be implemented is low. To quote a familiar adage, "the

president proposes but Congress disposes." The agriculture committees remain powerful, and crop insurance is a farm subsidy program centerpiece. However, that such reforms are being considered suggests that crop insurance may not be immune from significant changes in the upcoming farm bill.

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## **That such reforms are being considered suggests that crop insurance may not be immune from significant changes in the upcoming farm bill.**

### **Conclusions**

Since 1980, and especially since 1994, the federal crop insurance program has expanded to become a major source of government subsidies for farmers who raise crops. The main driving force behind that growth has been premium subsidies paid to farmers, which have increased from 0 percent of the estimated actuarially fair premium in 1980 to an average of more than 60 percent today. Those subsidies are expected to average more than \$6 billion a year over the next 10 years.

At the same time the government pays a substantial direct subsidy to the private crop insurance companies that sell and service the policies purchased by farmers and also allows them to collect substantial underwriting gains through a SRA that favors the companies. On an industry-wide basis, the current delivery system is costing taxpayers an additional \$2.5 billion a year. Farmers are contributing about \$3.6 billion a year to the total cost of the entire program,

which amounts to an annual average of around \$12 billion. Thus, farmers are paying 30 percent of the total cost of their crop insurance, and taxpayers are paying the remaining 70 percent.

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## **If the crop insurance program is continued, we recommend that the HPO be terminated, with a potential savings in taxpayer outlays of close to \$2 billion.**

In addition, the subsidies that flow to farmers are neither capped on a per farm basis nor targeted to small farms operated by low-income households. Forthcoming estimates by Bekkerman, Belasco, and Smith, for example, indicate that since 2007 more than 50 percent of all crop insurance subsidies have flowed to the top 10 percent of farms (in terms of sales), which on a per farm basis have an average net worth in excess of \$6 million.<sup>54</sup>

The federal crop insurance program also provides farmers with incentives to waste resources through moral hazard behaviors and reallocating land between crops and pasture and among crops, often with adverse environmental impacts, especially in areas where lands are fragile and subject to soil erosion. Those areas are a prime target for federal conservation programs such as the CRP, so the federal crop insurance program provides incentives that directly conflict with other federal programs' objectives, as discussed by Smith and Goodwin.<sup>55</sup> In addition, the production effects of the program make the program problematic with respect to US commitments under the WTO.

In summary, the federal crop insurance program is expensive, encourages farmers to waste resources,

disproportionately targets large and successful farm operations that have no need of federal assistance, and has the potential to engage the US in WTO disputes over the trade impacts of US agricultural policy. Given those problems, what is the best alternative? Some would argue that the program should be eliminated,<sup>56</sup> but the political reality is that the program remains popular with farmers, insurance companies, and farm state legislators.

One viable alternative is to replace the entire crop insurance program with a "no cost to farmers" disaster aid program based on indexes of plant growth constructed for each covered crop. The crops would include traditional farm subsidy "program" crops such as corn, wheat, cotton, barley, peas and lentils, sorghum, soybeans, and other oilseeds. However, the program would also cover crops not historically included in major subsidy programs such as fruits, vegetables, nuts, and forages.

The federal budget savings could be substantial, in the order of \$4–\$5 billion a year, moral hazard effects would largely be obviated, and incentives for changing crop mix and shifting land into crop production would be mitigated. Basis risks, the risks that farmers suffering losses will not be paid and that farmers with no losses will be indemnified, could be substantial if the indexes that trigger payments are poorly designed and applied to relatively large geographic areas such as counties.<sup>57</sup> However, complex weather indexes can be established that apply to relatively small areas (e.g., 12-mile-square or 8-mile-square grids) that substantially reduce those risk.

If the crop insurance program is continued, we recommend that the HPO be terminated, with a potential savings in taxpayer outlays of close to \$2 billion.<sup>58</sup> Successive administrations have proposed this policy change, but farm state legislators have resisted implementing the initiative. Under the HPO, farmers are allowed to value crop losses at the harvest time price if it is higher than the price at which they originally insured their crops at planting time.

The CBO has recently estimated that eliminating HPO would save \$1.9 billion annually over fiscal year 2018–27.<sup>59</sup> Babcock estimated that in 2012 the HPO increased payments to farmers for losses by about

\$6 billion and enabled many corn and soybean farmers in states such as Iowa to enjoy higher revenues than they had anticipated when planting their crops, even though they experienced relatively low yields.<sup>60</sup>

The HPO can perhaps best be described as gold-plated insurance, most of which is paid for by the taxpayer and not the farmer. In addition, as discussed above, the HPO provides subsidized price protection that could be obtained from the private sector using futures and options markets, and Congress has mandated that the federal crop insurance program is not supposed to provide products that compete with private-sector services.

Other proposals for reform of the crop insurance program have included rolling back premium subsidies to pre-2000 or pre-1994 levels to somewhere between 30 percent and 50 percent of estimated actuarially fair premiums instead of their current levels that average more than 60 percent. These changes would generate substantial reductions in expenditures and, over time, would likely reduce participation, in both insured acres and coverage levels. The challenge would then be to prevent farm groups from double dipping via congressionally authorized ad hoc disaster aid programs, as was the case before 2000, because more farmers would have no crop insurance protection, even though the decision not to have coverage would have been their choice.

In a similar vein, many observers have proposed capping annual premium subsidies on a per farm basis at amounts ranging from \$10,000 to \$50,000 per farm. Smith has noted that farmers have been successful in redefining the structure of their operations to evade subsidy payment limits but argued that if the limits are sufficiently draconian, then they would be more difficult and costly to evade.<sup>61</sup>

However, draconian limits on premium subsidies will likely have little appeal for members of the House and Senate Agriculture Committees who play a dominant role in establishing agricultural subsidy policies. One alternative Babcock, among others, proposed is to limit coverage levels receiving subsidies to no more than 70 percent of expected revenues or yields.<sup>62</sup> Given that many farmers currently insure their crops at much higher coverage levels, such a limit would

likely generate substantial savings in government spending, reduce crop production and moral hazard incentives, and make the US crop insurance program more in line with WTO green box criteria and likely less vulnerable to challenge.

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## The federal government should get out of the business of offering and subsidizing prevented planting insurance.

As previously discussed, the US crop insurance delivery system is expensive. One option would be to shift delivery from the private sector back to USDA farm service agency county offices, especially if the program were simplified, and involve only yield insurance or revenue insurance without the HPO. But that approach provides yet another rationale for continuing the extensive bureaucracy associated with federal agricultural programs that results in USDA operating farm service offices in almost every county in the country.

Another set of options involves changing the rules under which the insurance companies operate, as Glauber has suggested.<sup>63</sup> One way to reduce delivery costs would be to require the companies to bid competitively with one another for A&O subsidies. An alternative, which is not mutually exclusive, would be to allow them to compete with one another on premiums. For example, many farmers could easily sign up for coverage online, sharply reducing delivery costs. Allowing companies to compete on price would encourage them to adopt cost-saving innovations such as online sign-up protocols with benefits for farmers, taxpayers (because lower premiums mean lower subsidies at a given premium subsidy rate), and at least a small reduction in the economic waste associated with the program.

Finally, given the problems that have been identified with prevented planting insurance—including overpayment for losses and unsubstantiated claims—the federal government should get out of the business of offering and subsidizing prevented planting insurance. Alternatively, farmers could access prevented planting insurance but be required to pay the full commercial cost of the coverage, including administrative costs and training costs for loss adjusters, and face substantial penalties for unjustified claims.

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# Notes

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38. ERS, “Estimation of Prevented Planting Payment Rates by Crop and Region,” December 11, 1996.

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46. Eric J. Belasco and Vincent H. Smith, “The Budget Deal and Crop Insurance: The Sky Is Not Falling,” American Enterprise Institute, October 28, 2015, <http://www.aei.org/publication/the-budget-deal-and-crop-insurance-the-sky-is-not-falling/>.

47. Glauber, “The Growth of the Federal Crop Insurance Program, 1990–2011.”

48. Glauber, “Crop Insurance and Private Sector Delivery: Reassessing the Public-Private Partnership.”

49. Joseph W. Glauber, “Crop Insurance and Private Sector Delivery: Reassessing the Public-Private Partnership Taxpayers for Common Sense,” December 2016, [http://www.taxpayer.net/images/uploads/downloads/Crop\\_Insurance\\_and\\_Private\\_Sector\\_Delivery\\_13.pdf](http://www.taxpayer.net/images/uploads/downloads/Crop_Insurance_and_Private_Sector_Delivery_13.pdf).

50. Under Annex 2 of the Uruguay Round Agreement on Agriculture, domestic support measures that have no, or at most minimal, trade-distorting effects or effects on production are excluded from reduction commitments. Paragraph 7 of Annex 2 includes criteria that identify qualifying income insurance and income safety net programs, while paragraph 8 includes criteria that identify qualifying natural disaster assistance programs, including crop insurance. The United States, like many other developed countries, has chosen to notify crop insurance as amber box because the program fails to meet the criteria laid out in paragraphs 7 and 8. See Smith and Glauber, “Agricultural Insurance in Developed Countries”; Joseph W. Glauber, “Agricultural Insurance and the World Trade Organization,” International Food Policy Research Institute, 2015, <http://www.ifpri.org/publication/agricultural-insurance-and-world-trade-organization>; and Glauber, “Crop Insurance and Private Sector Delivery.”

51. From 1995 to 2011, the US notified crop insurance subsidies as nonproduct specific support. Since 2012, the US has notified premium subsidies on a crop-specific basis and have submitted revised notifications for crop insurance subsidies dating back to the 2008 reporting year.

52. Christian Lau, Simon Schropp, and Daniel A. Sumner, “The Economic Effects on the World Market for Cotton of US Cotton Subsidies Under the 2014 US Farm Bill,” International Centre for Trade and Sustainable Development, September 2015.

53. US Government Accountability Office, “Crop Insurance: Reducing Subsidies for Highest Income Participants Could Save Federal Dollars with Minimal Effect on the Program,” March 2015, <http://www.gao.gov/assets/670/669062.pdf>.

54. Anton Bekkerman, Erik J. Belasco, and Vincent H. Smith, “The Distribution of Farm Studies,” working paper, Montana State University.

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60. Babcock, “Cutting the Fat: It Won’t Kill Crop Insurance.”
61. Vincent H. Smith, “Limiting Premium Subsidies for Crop Insurance,” R Street Policy Study, no. 61, April 2016, <https://www.rstreet.org/wp-content/uploads/2016/04/61.pdf>.
62. Babcock, “Cutting the Fat.”
63. Glauber, “Crop Insurance and Private Sector Delivery.”