



What Harm Is Done by the Federal Crop Insurance Program Today?

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Key Points

- Supporters of the current federal crop insurance program often claim that the program is actuarially sound, that program growth has been driven by the private sector, and that government-supported crop insurance is essential for the survival of a financially healthy and stable farm sector.
- In contrast, evidence from a substantial body of research indicates that farmers are unwilling to pay premiums that would cover the commercial cost of crop and other forms of agricultural insurance because they have cheaper ways of managing risk.
- The heavily subsidized US crop insurance program encourages farmers to adopt risky production strategies that have adverse environmental and climate change implications because the associated losses are largely borne by taxpayers, not the farmers.

Myths and legends surround the federal crop insurance program through which farmers typically pay far less than 40 percent of the actuarial cost of the coverage they purchase to insure against lower-than-expected yields and revenues. The actual cost is even higher, since the loads required in private markets (to build capital reserves and profits and cover operating costs) are paid for by the taxpayer. Ten years ago, we questioned those myths and legends, exploring the actual impacts of subsidized crop insurance rather than the stories often put forward by farm and private-sector agricultural insurance interest groups.¹ In the intervening decade, changes in the federal crop insurance program have not eroded the relevance of our critiques or the extent of the damage the program does.

If anything, new initiatives have magnified the issues noted in our work. Two obvious changes are glaring examples of how the public partnership

between the government and private insurance companies, coupled with an alliance between farm and private insurance interest groups, has exacerbated the costs and harm associated with the program.

The first is the introduction of subsidized coverage that enables farmers to “buy down” the deductible associated with yield and revenue-based policies. Such policies include the Enhanced Coverage Option (ECO), Margin Protection, and the Supplemental Coverage Option (SCO). The second is the substantial funding increase in the 2018 Farm Bill for livestock insurance program subsidies. That change has led directly to an explosion in the use of those programs and their costs to taxpayers, as Joseph W. Glauber recently discussed.²

In the context of the current debate over what programs should be included in the new 2023 Farm Bill, we reexamine the long-standing issues associated with subsidized crop insurance and consider

Table 1. USDA Crop Insurance Direct Costs, 2012–21

Year	Indemnities (Dollars, Billions)	Insurance Company Subsidies (Dollars, Billions)	Total Program Costs (Dollars, Billions)	Total Premium (Dollars, Billions)	Farmer-Paid Premiums (Dollars, Billions)	RMA Loss Ratio	Farmer-Paid Premium Loss Ratio	Commercial Loss Ratio
	1	2	3	4	5	6	7	8
2012	\$17,490	\$1,405	\$18,895	\$11,152	\$4,160	1.57	4.20	4.54
2013	\$12,108	\$1,398	\$13,506	\$11,837	\$4,529	1.02	2.67	2.98
2014	\$9,146	\$1,386	\$10,532	\$10,100	\$3,876	0.91	2.36	2.72
2015	\$6,345	\$1,434	\$7,779	\$9,806	\$3,702	0.65	1.71	2.10
2016	\$3,934	\$1,447	\$5,381	\$9,349	\$3,476	0.42	1.13	1.55
2017	\$5,469	\$1,482	\$6,951	\$10,093	\$3,731	0.54	1.47	1.86
2018	\$7,338	\$1,541	\$8,879	\$9,912	\$3,641	0.74	2.02	2.44
2019	\$10,684	\$1,580	\$12,264	\$9,912	\$3,496	1.08	3.06	3.51
2020	\$9,169	\$1,683	\$10,852	\$10,235	\$3,781	0.90	2.43	2.87
2021	\$9,124	\$1,529	\$10,653	\$14,294	\$5,446	0.64	1.68	1.96
2012–21	\$90,807	\$14,885	\$105,692	\$106,690	\$39,838	0.85	2.28	2.65

Note: Column 3 is the sum of Columns 1 and 2. Column 6 is the ratio of Column 1 to Column 4. Column 7 is the ratio of Column 1 to Column 5. Column 8 is the ratio of Column 3 to Column 5. The dollar amounts in the row labeled 2012–21 are total outlays over the 10-year period.

Source: US Department of Agriculture, Risk Management Agency, “Direct Costs of Federal Crop Insurance Program,” April 20, 2022, <https://www.rma.usda.gov/-/media/RMA/AboutRMA/Program-Budget/21cygovcost.ashx?la=en>.

the impacts of these two major changes to the program.

Myth 1

The US Department of Agriculture (USDA) Risk Management Agency (RMA) claims that the federal crop insurance program is actuarially sound.³

From the RMA’s perspective that—regardless of source—all monies paid into insurance funds cover indemnities, it is.

This is creative bookkeeping by Congress. This approach does not consider premium subsidies for farmers or the subsidies paid to insurance companies to administer the programs. The claim of actuarial soundness is based on the fact that indemnity

payouts are on average about equal to the total amount of premium collected.

However, this does not include the significant costs associated with subsidies, which are paid by the taxpayer. Actuarial soundness is usually represented by the loss ratio—the ratio of payouts to premiums. Loss ratios have been less than one in recent years, meaning that, as shown in Table 1, indemnities have been lower than the payments into the pool of funds used to cover them.

There are two problems here. A more normal measure of actuarial soundness would be the ratio of indemnities to the premiums actually paid by the customers benefiting from the coverage. First, farmers pay less than 40 percent of the premiums allocated to the insurance pool and none of the typical costs associated with commercial lines of insurance. Thus, from a public policy perspective, a far more relevant measure of actuarial soundness is the ratio of indemnities paid out to farmers to the amount of premium farmers paid out of their own pockets for coverage. When correcting the loss ratio to only account for customer-paid premiums, it becomes obvious that the program is persistently actuarially unsound.

But as we pointed out many years ago, if honesty is the best policy, then Congress should also recognize the program's full cost-loss ratio. The government not only subsidizes farmer premiums, it also directly subsidizes crop insurance companies through payments for their administration and operations costs. A full loss ratio would add those administration and operations subsidies to the indemnities paid to farmers and compare those total costs of the program to farmer-paid premiums.

As shown in Table 1, the loss ratio reported by the RMA (Column 6) averaged 0.85 from 2012 to 2021 and only substantially exceeded one in 2021, when indemnity payments were exceptionally large because of a major drought in the corn belt and southern plains. In contrast, the farmer-paid loss ratio averaged 2.28 over the same period, and the commercial loss ratio, the ratio that would matter if crop insurance was genuinely offered as a private-market commodity, averaged 2.65. Clearly, the current book of business would be unsustainable absent substantial government subsidies, and it is more than a country mile from being financially

sound relative to any commercial lines of insurance.

Myth 2

Farm and crop insurance interest groups claim that farmers want crop insurance as a key risk-management tool. Ironically, they only want it if it is heavily subsidized and, over the medium to long term, a moneymaking proposition. A plethora of studies of the demand for farm-yield or area-based crop insurance have failed to find any market for the products anywhere in the world if farmers have to cover the full commercial cost. As Mario Miranda and Katherine Farrin⁴ pointed out, once subsidies have gone away, every crop insurance scheme has collapsed.

Crop insurance is only a key risk-management tool if it is heavily subsidized—that is, if the taxpayer covers most of the cost. Otherwise, farmers use many other strategies to deal with risk because they are less expensive or provide better protection. Farmers don't want much, if any, farm-yield or area-based crop insurance in the market sense that they are both willing and able to pay for it.

Myth 3

Farm interest groups have often claimed that farmers always want to produce as much of a crop as is profitable, so crop insurance does not adversely affect farm production decisions and, by implication, the environment. This claim is patently false. There is an extensive body of research overwhelmingly reporting that subsidized crop insurance has encouraged farmers to shift production onto more fragile lands, thereby increasing soil erosion and, by implication, agriculture's carbon footprint.⁵ Crop insurance has also encouraged the adoption of other, more risky production strategies (e.g., less use of tools to prevent crop loss from pests or weeds).

The reason is straightforward: Subsidized crop insurance actually encourages the use of higher-risk production practices because farmers benefit from any upside in yields and revenues in good years, but they bear few of the losses when yields are low. It is simple: Subsidizing risk leads to more risk. Worse, if farmers know they will have poor

yields and revenues, farm-yield-based crop insurance incentivizes farmers to “enjoy” even lower yields because they will receive large indemnities and incur lower production costs. Nice work if you can get it. But it’s not good public policy.

Myth 4

Markets do not provide crop insurance that farmers would want because of market failure. The story is that insurance companies do not offer yield- or area-based products that farmers can “afford” to buy because of what has come to be called “systemic risk.” The argument is that in any given region, low yields for one farmer are closely linked to low yields for another farmer because of systemic or region-wide pest and weather events. Thus, a private insurance company that sells policies cannot cope with financial losses when region-wide droughts or other events occur.

Agricultural risk is indeed systemic, but this does not mean that private markets cannot handle such systemic risk. Financial markets have mechanisms to cope with all forms of risk and typically cover systemic risks that are orders of magnitude more costly than what is typically seen in agriculture. Globally, small private primary insurance companies cede risks to large reinsurance companies that handle risks in many sectors of an economy in many different forms and countries.

As Vincent Smith, Glauber, and other researchers have pointed out, the reason for very limited private-sector involvement is more straightforward and has nothing to do with systemic risk.⁶ The commercial cost of providing yield- and area-based insurance policies, including administration, overhead, and premium payments, exceeds what almost all farmers are willing to pay. This does not represent a market failure.

The fact that coverage is costly due to the nature of the risks being covered also does not imply a de facto market failure. This should not be taken to imply that private crop insurance cannot exist. Many private endorsements to the federal plan are offered, and it is certain that the significant subsidies have created a situation in which private insurers cannot compete with the subsidies—a classic case of crowding out.

Myth 5

The private crop insurance industry has asserted that its work is a, if not the, major reason so many farmers now purchase federal crop insurance contracts. Any careful examination of the evidence shows that only when premium subsidies have been substantially increased—or in the recent case of livestock insurance, effectively introduced at high rates—have farmers expanded their purchases of federal crop insurance.⁷

To the extent that the private sector has played any role, it has taken two forms. One is to create new products through a process introduced, largely at the private sector’s behest, in the 2000 Agricultural Risk Protection Act known as 508(h). Under that process, private developers are subsidized to propose new federally subsidized products to the USDA Federal Crop Insurance Corporation.

The other is for private crop insurance agents to aggressively market federal crop insurance products, typically and understandably most often with a focus on the products that will be most profitable for the agents and companies. But these are impacts at the margin. Until premium subsidies were introduced in the early 1980s, less than 15 percent of eligible acres were insured. When premium subsidies were increased to 30 percent in 1983, participation rates increased to between 20 and 30 percent. Not until Congress expanded premium subsidies to over 60 percent in 2000 did participation rates explode to levels in excess of 90 percent.⁸

Myth 6

The final myth, which has already been asserted both explicitly and implicitly in the current debate over a new farm bill, is that farmers cannot survive financially without federally subsidized crop insurance. The perhaps unstated but often implied corollary is that without this program, agricultural production and the US food chain would be destabilized, and food prices would surge.

This claim is unsupported by any relevant evidence. US agricultural production was healthy and expanding, and farm incomes were increasing before the introduction of any premium subsidies in 1980. As discussed above, the case can be made that, if anything, federal crop insurance hurts agricultural production and worsens climate change.

In addition, the livestock and fruits and vegetables sectors that until recently had no or little access to heavily subsidized insurance have also been highly productive. Further, in many other developed countries where crop insurance subsidies and subsidy rates are much smaller and heavily constrained, agricultural sectors and farms have been successful.

Many farmers benefit from the current US program in at least two ways. First, as discussed above, they enjoy higher revenues from the crops they insure because of the subsidies, and they have less incentive to genuinely reduce crop yield losses. Second, they face less risk.

There is, nevertheless, an important downside for the agricultural economy associated with this aspect of the federal crop insurance program. The program enables poorly managed farm businesses to survive and continue to use scarce resources, including land, inefficiently. Farm interest groups certainly view this as a benefit. However, keeping inefficient businesses in operation instead of allowing resources to flow to more efficient uses is a classic example of what, in the context of the federal sugar program, former House Speaker John Boehner (R-OH) described as a “Stalinist” approach to manage an important sector of the US economy.⁹

Is the Goal to Eliminate All Agricultural Risks?

In recent years, the level of coverage provided by subsidized crop insurance has crept higher and higher. Revenues can now be guaranteed up to 95 percent of normal levels. An important question emerges from this expansion of crop insurance over the past couple of decades: Is the goal of this program to eliminate all risks that an agricultural producer faces and to do so at taxpayers’ expense? The level of protection offered to growers traditionally has been capped at 85 percent, meaning that a farmer’s yield or revenue losses that exceed 15 percent are covered. For example, a year in which revenues at harvest were only 80 percent of

normal would generate indemnity payments for 5 percent of normal revenues.¹⁰

The ECO was introduced as a new program for the 2021 crop year. ECO provides coverage for the tranche of revenues between 86 and 95 percent of their expected levels. ECO coverage is based on county-level revenues. Indemnities are paid if the county average revenue falls beneath 95 percent of what is expected, based on recent experience. A similar endorsement called the SCO was introduced in 2015, but it was limited to only those farmers taking Price Loss Coverage, a Title I price support program. SCO pays indemnities when county revenues fall beneath 86 percent, with coverage extending down to 75 percent. Both insurance programs have been termed “shallow loss coverage,” in that they cover a significant portion of standard deductibles for farm-yield-based contracts.¹¹

A related program called Margin Protection (MP) was introduced with the 2016 crop year. MP covers the margin between expected revenues and expected costs and, like ECO and SCO, operates at a county level. Farmers can secure coverage between 70 and 95 percent of the expected margin.¹² Any indemnities paid under the underlying crop insurance contract must be subtracted from the MP indemnity. MP considers the prices of such inputs as diesel fuel, urea, diammonium phosphate, potash, and interest.

These shallow loss programs have essentially expanded coverage up to 95 percent of typical revenues.¹³ In what other sector of the economy are independent businesses (i.e., farmers) guaranteed their typical revenues at such a high level and at the taxpayers’ expense? None that we are aware of.

Will Congress continue to expand these programs until all downside risk faced by the producer is eliminated? The continual march toward higher levels of coverage would seem to suggest such. The programs are costly, that much is clear. What is often not considered are the distortions that occur when coverage removes nearly all revenue risk.

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Notes

1. Barry K. Goodwin and Vincent H. Smith, “What Harm Is Done by Subsidizing Crop Insurance?,” *American Journal of Agricultural Economics* 95, no. 2 (December 2012): 489–97, <https://doi.org/10.1093/ajae/aas092>.
2. Joseph W. Glauber, “The Growth of the Federal Crop Insurance Program, 2010–22,” American Enterprise Institute, February 1, 2023, <https://www.aei.org/research-products/report/the-growth-of-the-federal-crop-insurance-program-2010-22>.
3. US Department of Agriculture, Risk Management Agency, “Frequently Asked Questions: Revised Premium Ratings for Corn and Soybeans,” November 29, 2011, <https://legacy.rma.usda.gov/help/faq/rerating.html>.
4. Mario J. Miranda and Katie Farrin, “Index Insurance for Developing Countries,” *Applied Economic Perspectives and Policy* 34, no. 3 (September 2012): 391–427, <https://onlinelibrary.wiley.com/doi/abs/10.1093/aep/pps031>.
5. Daniel A. Sumner and Carl Zulauf, *Economic and Environmental Effects of Agricultural Insurance Programs*, Council on Food, Agricultural and Resource Economics, July 2012, https://static.ewg.org/pdf/Sumner-Zulauf_Final.pdf.
6. Vincent H. Smith and Joseph Glauber, “Agricultural Insurance in Developed Countries: Where Have We Been and Where Are We Going?,” *Applied Economic Perspectives and Policy* 34, no. 3 (September 2012): 363–90, <https://doi.org/10.1093/aep/pps029>.
7. Joseph W. Glauber, “The Growth of the Federal Crop Insurance Program, 1990–2011,” *American Journal of Agricultural Economics* 95, no. 2 (January 2013): 482–88, <https://doi.org/10.1093/ajae/aas091>; Anton Bekkerman, Vincent H. Smith, and Myles J. Watts, “The SURE Program and Incentives for Crop Insurance Participation: A Theoretical and Empirical Analysis,” *Agricultural Finance Review* 72, no. 3 (November 2012): 381–401, <https://doi.org/10.1108/OO021461211277240>; and Goodwin and Smith, “What Harm Is Done by Subsidizing Crop Insurance?”
8. Glauber, “The Growth of the Federal Crop Insurance Program, 1990–2011.”
9. Vincent H. Smith et al., “Agricultural Policy in Disarray: An Overview,” in *Agricultural Policy in Disarray*, ed. Vincent H. Smith, Joseph W. Galuber, and Barry K. Goodwin (Washington, DC: AEI Press, 2018), 1: 17–50.
10. Glauber, “The Growth of the Federal Crop Insurance Program, 1990–2011”; Bekkerman, Smith, and Watts, “The SURE Program and Incentives for Crop Insurance Participation”; and Goodwin and Smith, “What Harm Is Done by Subsidizing Crop Insurance?”
11. Details of the Expanded Coverage Option, the Supplementary Coverage Option, and the Margin Protection program are available on the US Department of Agriculture Risk Management website, including the coverage levels available for each program described here. See US Department of Agriculture, Risk Management Agency, website, <https://www.rma.usda.gov>.
12. US Department of Agriculture, Risk Management Agency, website.
13. US Department of Agriculture, Risk Management Agency, website.

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