Another Round of Crop Insurance; Update from the Policy Design Lab

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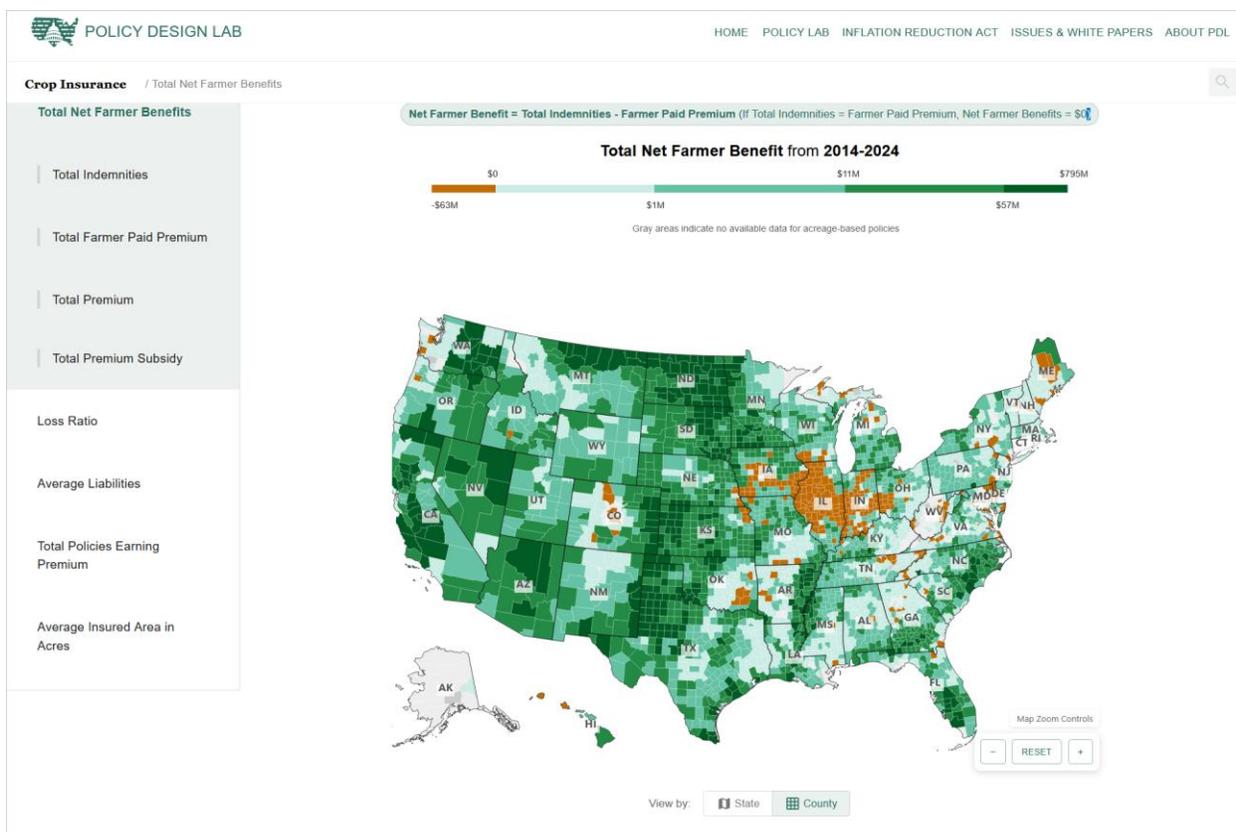**University of Illinois**

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On Opening Day, opening with a return to crop insurance; this article reviews recently released, updated visualizations of the crop insurance program developed as part of the Policy Design Lab project (*farmdoc daily*, September 7, 2023). The interactive maps now allow users to visualize crop insurance data at the county level by selecting the county option below the map (*Policy Design Lab*, "Crop Insurance"). The interactive county level map is also available here as Figure 1, beginning with the total net farmer benefits (total indemnities minus farmer-paid premium) for the years 2014 to 2024. Users can select different data categories from the tabs on the left-hand side of the screen and the map will visualize the county level data reported by USDA's Risk Management Agency (RMA). For example, the "Loss Ratio" tab returns a map with total loss ratios by county from 2014 to 2024 for all acreage policies in the program. The table of data below the map is also interactive and allows users to further visualize the data as well as download it for further use and analysis.

POLICY DESIGN LAB

HOME   POLICY LAB   INFLATION REDUCTION ACT   ISSUES & WHITE PAPERS   ABOUT PDL

Crop Insurance   / Total Net Farmer Benefits

Total Net Farmer Benefits

Total Indemnities

Total Farmer Paid Premium

Total Premium

Total Premium Subsidy

Loss Ratio

Average Liabilities

Total Policies Earning Premium

Average Insured Area in Acres

Net Farmer Benefit = Total Indemnities - Farmer Paid Premium (If Total Indemnities = Farmer Paid Premium, Net Farmer Benefits = $0)

Total Net Farmer Benefit from 2014-2024

$0 $11M $795M
-$63M $1M $57M

Gray areas indicate no available data for acreage-based policies

Map Zoom Controls
–   RESET   +

View by: State   County

The view of crop insurance at the county level challenges much about our understanding of the fundamentals of insurance. These fundamentals are straightforward and intuitive. People and firms pay for insurance to help with risk and uncertainty, purchasing policies in advance via premiums, to be reimbursed if, and when, a covered loss is experienced. Overall, the total premiums of the insureds fill the insurance or risk pool from which indemnities are drawn to compensate those suffering losses. For insurance to work, there cannot be more indemnities for losses than premiums paid to fill the pool—at least, that situation cannot exist for long if the insurers are to remain in business. Insureds cannot purchase insurance with the expectation of receiving indemnities, nor take actions intended to trigger indemnities. Finally, the same insureds cannot consistently receive indemnities while other insureds only pay premiums. When the fundamentals are broken, insurance would be expected to break down in some form or fashion (Ben-Shahar and Logue, 2016; Liebman and Zeckhauser, 2008; Kimball, 1960).

The takeaways from the updated map visualizations challenge these matters. First, the maps make clear that farmers in a relatively few counties in the Midwest are consistently paying more in than they receive out in total indemnities—which is otherwise known as the way insurance is supposed to operate. In other major farming areas of the country, however, the data indicates that farmers are receiving much more in total indemnities than they are paying for insurance policies. The two extremes provide an example: Gaines County, Texas farmers have received $795 million more in total indemnities from 2014 to 2024 than they have paid in premiums, while farmers in McLean County, Illinois have paid nearly $63 million more for insurance premiums than they have received in total indemnities in those years. Nine out of the ten counties paying the most in premiums over total indemnities are from Illinois, with one from Iowa (Webster County).

The Loss Ratio tab visualizes the overall actuarial performance of crop insurance (all acreage policies) for these years and at the county level. As discussed previously, Congress has sought to reform crop insurance over the years to make the program operate on an actuarially sound basis, which has come to be defined as a 1.0 loss ratio (plus a reasonable reserve). The loss ratio equals the total indemnities divided by the total premium, which includes both the farmer-paid premium and the federally provided premium subsidy. A 1.0 loss ratio means that the total indemnities paid out equal the total premium paid into the insurance pool ($1.00 out for indemnities from $1.00 in from total premium). A reserve of funding

would require a lower loss ratio, such as 0.90 loss ratio ($0.90 cents paid out for $1.00 paid in) (*farmdoc daily*, April 11, 2024; July 16, 2024).

Not surprisingly, the same pattern holds for total loss ratios as for total net farmer benefits: the actuarial soundness of the program balances substantially on counties in the Midwest. Together, these two maps—net farmer benefits and loss ratios—raise difficult questions about the performance and soundness of the federal crop insurance program. Both lead to a conclusion that crop insurance operates contrary to the basic understanding of how insurance is supposed to work.

Adverse selection is the term developed by researchers for a critical breakdown in the fundamentals of insurance. The term basically refers to problems in pricing insurance premiums such that high risk insureds are undercharged and low risk insureds overcharged. This can lead high risk insureds to purchase more insurance than they should and can drive low risk insureds out of the pool because they are paying too much. If it continues, it is possible for adverse selection to drive out low risk insureds and create a death spiral for the insurer and the insurance pool (Ben-Shahar and Logue, 2016; Liebman and Zeckhauser, 2008; Siegelman, 2003). Adverse selection has long been identified as a challenge for crop insurance (Just, Calvin, and Quiggin, 1999; Goodwin, 2001; Makki and Somwaru, 2001). To date, however, the evidence of adverse selection in the data has not resulted in a death spiral in crop insurance and the program continues to deviate substantially from the textbook model and any market-based conception of insurance.

Multiple factors drive farmers' decisions to continue purchasing crop insurance. The most likely reason that the program can avoid the consequences of adverse selection, however, is the high level of federal premium subsidy invested in it. From 2014 to 2024, 62.6% of total premium was from premium subsidies; taxpayer funds, in other words, help fill most of the insurance pool. The difference appears to be covered mostly by farmers in the Midwest.

Today's premium subsidy schedule traces to the Agriculture Risk Protection Act (ARPA) of 2000, which was arguably the most consequential revision to the crop insurance program in its history (P.L. 106-224). That history traces to the Agricultural Adjustment Act of 1938, when Congress created crop insurance for wheat during the Great Depression and the Dust Bowl years; overall, the program languished for decades with low participation and poor actuarial performance until Congress began attempting to fix it in the 1980s and 1990s (P.L. 96-365; P.L. 101-624; P.L. 103-354; Kramer, 1983; Glauber, 2004; Smith and Glauber, 2012; Glauber, 2013; Hamilton, 2020; *farmdoc daily*, April 11, 2024). Congress designed the premium subsidies as a percent of the premium, ranging from 48% for the highest coverage levels (80% to 85%) to 67% for the lowest buyup coverage levels (50% to 55%) and recently increased the premium subsidy levels in the Reconciliation Farm Bill, but kept the basic schedule design (*farmdoc daily*, July 31, 2025).

Whether crop insurance can continue to escape the consequences of the performance realities exposed in the maps remains a question unanswered. Congress seems intent on testing matters, however. For example, the most significant change to crop insurance since ARPA 2000 was the addition of stacked insurance policies in the 2014 Farm Bill, such as the Supplemental Coverage Option (SCO) and the Stacked Income Protection Plan for Upland Cotton (STAX). These permit farmers to purchase an area-wide coverage that stacks on top of, or supplements, the underlying insurance policy (*farmdoc daily*, March 11, 2026; March 10, 2026; February 24, 2026; December 17, 2025; June 10, 2025; June 13, 2024). The Reconciliation Farm Bill increased the premium subsidy for SCO to 80% (previously, 65%) of the premium and raised its coverage level to 90% (previously, 86%) while also permitting farmers to purchase SCO when they enroll base acres of the crop in the ARC-CO program (*farmdoc daily*, August 28, 2025). Additionally, and likely a form of concession that design issues are driving adverse selection problems for crop insurance, Congress also enacted an additional subsidy for crop insurance companies to entice them to continue to sell policies in high risk, high loss areas (*farmdoc daily*, August 14, 2025).

Can crop insurance continue to defy the fundamentals that generally apply to insurance? What happens if it does not? One searches in vain for the method, the model, or the research that can be applied to these and related questions. What dawns at last from the dark night of this futility is realization of a fundamental flaw in the research. The modeling and methods are missing—conveniently ignoring or assuming away—the most critical element in the crop insurance equation, political power. Crop insurance is a federally designed and subsidized insurance program. Political power is what drives the design, while entrenching the distribution of benefits, not the weeds of actuarial science or economics (Meier, 1991). Political power,

for example, is the reason Congress can require actuarial soundness but can achieve it only at the program level with subsidies and balanced on the Midwest.

There is cold comfort in this realization, however, because political power will fix nothing of its own volition—it only operates in one direction. This means that fixing the program likely has only two catalysts: either a collapse in which crop insurance can no longer defy reality and the fundamentals; or rival political powers achieve changes that improve the program's integrity and bring it more into alignment with those fundamentals. This is the gamble designed into the program, a wager of about $15.5 billion per federal fiscal year.

References

Ben-Shahar, Omri, and Kyle D. Logue. "The perverse effects of subsidized weather insurance." *Stan. L. Rev.* 68 (2016): 571. https://www.stanfordlawreview.org/wp-content/uploads/sites/3/2016/03/68_Stan._L._Rev._571_-_Ben_Shahr_and_Logue.pdf.

Coppess, J. "A View of the Farm Bill Through Policy Design, Part 5: Crop Insurance." *farmdoc daily* (13):162, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, September 7, 2023.

Coppess, J. "The Reconciliation Farm Bill: The Top Five Most Problematic Changes to Farm Policy, #5." *farmdoc daily* (15):139, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, July 31, 2025.

Coppess, J. "The Reconciliation Farm Bill: Top Five Most Problematic Changes to Farm Policy, #4." *farmdoc daily* (15):147, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, August 14, 2025.

Coppess, J. "The Reconciliation Farm Bill: Top Five Most Problematic Changes to Farm Policy, #2." *farmdoc daily* (15):157, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, August 28, 2025.

Coppess, J., G. Schnitkey, B. Sherrick, N. Paulson and I. Flores. "The Dilemma of Actuarial Soundness, A Legislative History." *farmdoc daily* (14):70, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, April 11, 2024.

Glauber, Joseph W. "Crop Insurance Reconsidered." *American Journal of Agricultural Economics* 86, no. 5 (2004): 1179–95. http://www.jstor.org/stable/3697927.

Glauber, Joseph W. "The Growth of the Federal Crop Insurance Program, 1990—2011." *American Journal of Agricultural Economics* 95, no. 2 (2013): 482–88. http://www.jstor.org/stable/23358421.

Goodwin, Barry K. "Problems with Market Insurance in Agriculture." *American Journal of Agricultural Economics* 83, no. 3 (2001): 643–49. http://www.jstor.org/stable/1245093.

Hamilton, Shane. "Crop Insurance and the New Deal Roots of Agricultural Financialization in the United States." *Enterprise & Society* 21, no. 3 (2020): 648–80. https://www.jstor.org/stable/27015650.

Just, Richard E., Linda Calvin, and John Quiggin. "Adverse Selection in Crop Insurance: Actuarial and Asymmetric Information Incentives." *American Journal of Agricultural Economics* 81, no. 4 (1999): 834–49. https://doi.org/10.2307/1244328.

Kimball, Spencer L. "The Purpose of Insurance Regulation: A Preliminary Inquiry in the Theory of Insurance Law." *Minn. L. Rev.* 45 (1960): 471. https://scholarship.law.umn.edu/cgi/viewcontent.cgi?params=/context/mlr/article/3323/&path_info=uc.pdf.

Kramer, Randall A. "Federal Crop Insurance 1938-1982." *Agricultural History* 57, no. 2 (1983): 181–200. http://www.jstor.org/stable/3743155.

Liebman, Jeffrey, and Richard Zeckhauser. *Simple humans, complex insurance, subtle subsidies*. No. w14330. National Bureau of Economic Research, 2008. https://www.nber.org/system/files/working_papers/w14330/w14330.pdf.

Makki, Shiva S., and Agapi Somwaru. "Evidence of Adverse Selection in Crop Insurance Markets." *The Journal of Risk and Insurance* 68, no. 4 (2001): 685–708. https://doi.org/10.2307/2691544. https://www.jstor.org/stable/2691544.

Paulson, N., G. Schnitkey, H. Monaco and C. Zulauf. "SCO, ECO, and the Probability of Regret." *farmdoc daily* (16):40, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, March 10, 2026.

Schnitkey, G., B. Sherrick, C. Zulauf, J. Coppess and N. Paulson. "Crop Insurance Loss Performance in Illinois and the Midwest." *farmdoc daily* (14):131, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, July 16, 2024.

Schnitkey, G., J. Coppess, N. Paulson, C. Zulauf and B. Sherrick. "Cotton STAX and Modified Supplemental Coverage Option: Concerns with Moving Crop Insurance from Risk Management to Income Support." *farmdoc daily* (14):111, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, June 13, 2024.

Schnitkey, G., B. Sherrick, C. Zulauf, N. Paulson and J. Coppess. "The House Reconciliation Bill Proposal for SCO: Income Support for High-Risk Farmland." *farmdoc daily* (15):106, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, June 10, 2025.

Schnitkey, G., N. Paulson, C. Zulauf, H. Monaco and B. Sherrick. "SCO and ECO Choices in 2026." *farmdoc daily* (16):16, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, February 3, 2026.

Siegelman, Peter. "Adverse selection in insurance markets: an exaggerated threat." *Yale LJ* 113 (2003): 1223. https://openyls.law.yale.edu/server/api/core/bitstreams/0192860c-ab61-45ef-af65-7d8989968769/content.

Smith, Vincent H., and Joseph W. Glauber. "Agricultural Insurance in Developed Countries: Where Have We Been and Where Are We Going?" *Applied Economic Perspectives and Policy* 34, no. 3 (2012): 363–90. http://www.jstor.org/stable/23273811.

Zulauf, C. "Area Add-Up Insurance Performance: Insights from Cotton STAX." *farmdoc daily* (15):232, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, December 17, 2025.

Zulauf, C., H. Monaco, G. Schnitkey, N. Paulson and J. Coppess. "Insurance Impacts in the Presence of High Subsidy – High Coverage Products: A Case Study of STAX." *farmdoc daily* (16):41, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, March 11, 2026.