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Environmental Benefits of Crop Insurance Reform

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Incentivizing engagement with conservation and mitigation should be a top priority of FCIP reform. This would bring environmental, financial and stability benefits to the farming industry with little to no downside.

Executive Summary

Of all the farm subsidies and programs, the Federal Crop Insurance Program (FCIP) is among the least adept at encouraging program participants to adjust farming practices to focus on resilience and sustainability. Many aspects of the FCIP unintentionally encourage environmental harm by structuring payouts that encourage agribusiness to plant as much as possible in order to receive the largest taxpayer subsidies. This causes a strain on resources, harms topsoil and groundwater, depletes nutrient density in soil and crops, and leads to air and water pollution.

An overhaul of FCIP practices is necessary to incentivize environmental sustainability, resilience and mitigation. Appropriate changes can both benefit the environment and incur savings for taxpaying Americans who currently fund the majority of crop insurance premiums.

Introduction

The Federal Crop Insurance Program (FCIP) began in 1938 and offers farmers taxpayer-subsidized insurance against below-normal yields and lower-than-expected market prices.[1] Originally started as part of President Franklin D. Roosevelt's New Deal Initiative, the program was greatly influenced by major events of the time, including the Great Depression and the Dust Bowl.[2] Beginning in 1930, the Dust Bowl lasted for nearly a decade and had severe negative effects on the nation's food supply and quality of life of those in the Midwest. Indeed, the Dust Bowl stands as a well-known example of the detrimental effects of unwise farming practices and unpredictable weather patterns, which in this case included severe drought.

To this day, the FCIP and its participants remain financially vulnerable to weather and environmental concerns, including droughts, flooding, wildfires and extreme temperatures. However, the FCIP is woefully unprepared to address these growing risks on either a financial or environmental level.[3] In many ways, the structure of the FCIP inadvertently encourages environmental harm by incentivizing land and resource overuse.

This paper outlines some of the top environmental concerns of the current FCIP and its financial impacts. These include land overuse, unintentional incentives to farm in environmentally sensitive areas, pollution and the financial implications of increasing natural disasters. To address these concerns, we propose five reforms to increase

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1938

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Today

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agricultural resilience and sustainability, incentivize mitigation, restore natural barriers and reform "good farming practices." These adjustments would marry good environmental policy with good financial policy and allow the FCIP to operate as a true insurance product.

Environmental Concerns

Overuse of Land and Overplanting

The foundation of the FCIP is flawed, as it encourages farmers to plant as much of their crop as possible to maximize insurance payouts. FCIP payouts are based on historical losses from the year prior.[4] The larger the percentage of loss, the larger the payout, both on a percentage and actual basis.

The funding structure of policy premiums further exacerbates this issue, with farmers paying on average one-third of policy premiums and taxpayer subsidies making up the remaining two-thirds to the tune of $41 billion in 2021.[5] Policy premium subsidies are on a sliding scale, with 50 percent loss coverage being 100 percent taxpayer subsidized under the Federal Crop Insurance Corporation (FCIC) Catastrophic Risk Coverage plans.[6] Loss coverage increases to as much as 85 percent or more (Table 1).

Table 1: FCIC Catastrophic Risk Protection Subsidy Rates

Loss Coverage (%)	Premium Taxpayer Subsidy (%)
50	100
≥50 <55	67
≥55 <65	64
≥65 <75	59
≥75 <80	55
≥80 <85	48
≥85	38

Source: 7 U.S. Code §1508, Crop insurance. https://uscode.house.gov/view.xhtml?req=(title:7%20section:1508%20edition:prelim).

Thus, to maximize profits, farmers have an insurance incentive to overplant and overuse their land, taking advantage of every acre. In traditional, free-market insurance, the premium increases that would come with repeated losses would deter overplanting. No such barriers exist in the heavily regulated and subsidized FCIP. Premiums do not increase as a result of repeated losses; rather, they are so heavily subsidized that the financial outlay for most farms makes overplanting more attractive—not less.

In fact, it would be reasonable to say that the FCIP is not insurance at all, but simply income support for farmers—especially when considering the wide range of support programs that exist in addition to insurance. This includes programs such as Price Loss Coverage (PLC), Agriculture Loss Coverage (ARC), Harvest Price Option (HPO), ad hoc disaster payments and others.

Nearly every program within the FCIP encourages, and even incentivizes, overplanting in one way or another. The impacts to the environment are substantial, and the financial impact to Americans is significant. Billions of tax dollars annually go toward crops that will never reach taxpayer tables.

The environmental impacts of overplanting crops are far reaching and cause a cascade effect that harms the land, the quality of crops and the broader ecosystem. For example, land overuse can deplete nutrients in the soil, which, in turn, can increase the risk of both drought and flooding and often requires significant fertilizer application to keep up an acceptable yield of crops.[7] Fertilizers and pesticides cause runoff pollution, which accumulates in larger waterways. This accumulation can result in eutrophication and other ecological issues. We explore some examples of this later in the paper, including nitrogen pollution in the Gulf of Mexico.

Farming in Environmentally Sensitive Areas

Another issue with the payment structure of the FCIP is that it unintentionally incentivizes the use of environmentally sensitive lands. To be clear, the FCIP has programs to encourage environmentally sound practices, including conservation-compliance standards. These are meant to ensure that wetlands and high-erosion areas are not used for farming unless farmers develop a conservation plan in accordance with the Natural Resources Conservation Service (NRCS).

Unfortunately, this program and others like it are entirely broken, with just 1 percent of the land in these programs audited every year.[8] This produces a dichotomy in which there is both an incentive to participate in the program to farm on desired lands but zero reason to comply with the requirements of a conservation plan when it is unlikely that a farmer's actions will

be scrutinized. Producers signal their participation in the program by self-certifying and filing a single form, and if a need for confirmation is triggered by the NRCS, rulings can be made "off-site," meaning that no physical visit is necessary to confirm or deny the information in the form.[9] Further, according to research from the Government Accountability Office (GAO), the quality-control reviews required by the NRCS appear to be inconsistent and cursory.[10]

Similar programs include the Environmental Quality Incentives Program (EQIP) and the Conservation Stewardship Program (CSP), which are rife with their own inefficiencies. A report by the Environmental Working Group (EWG) found that just 14 percent of money designated to the EQIP went toward conservation practices.[11] Meanwhile the CSP, a voluntary program that pays farmers to participate in conservation practices, spent less than 1 percent of its billions in annual funding on "climate smart" practices.[12]

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Water and Air Pollution

The large-scale farming practices incentivized by the FCIP also generate pollution from pesticide and fertilizer use. A particularly egregious example is the nitrogen pollution in the Gulf of Mexico caused by agricultural runoff from the Corn Belt in the Upper Mississippi River Basin (UMRB).[13] Years of corn production, mostly from large agribusinesses, has created "dead zones" in the Gulf where nitrogen and phosphorous runoffs have led to algae blooms that absorb oxygen from the water and make it difficult for marine life to survive.[14] And although the Gulf of Mexico dead zone is among the largest, approximately 200 dead zones exist across the United States, most of which are caused by agriculturally induced pollution.[15] In addition to creating ecological difficulties, these dead zones also cause a financial strain on tourism and fishing industries, costing the United States an estimated $82 million a year.[16]

Beyond aquatic dead zones, nitrogen-rich fertilizers are also among the leading contributors to global air pollution.[17] According to research, portions of the eastern coast of the United States contain air pollution well in excess of recommended levels from the World Health Organization (WHO) and Environmental Protection Agency (EPA). Agricultural pollution from nitrogen fertilizers is responsible for about half of this air pollution.[18] This means that agricultural practices cause more air pollution than all other types of human activity combined, including motor vehicle usage and industrial power plants.

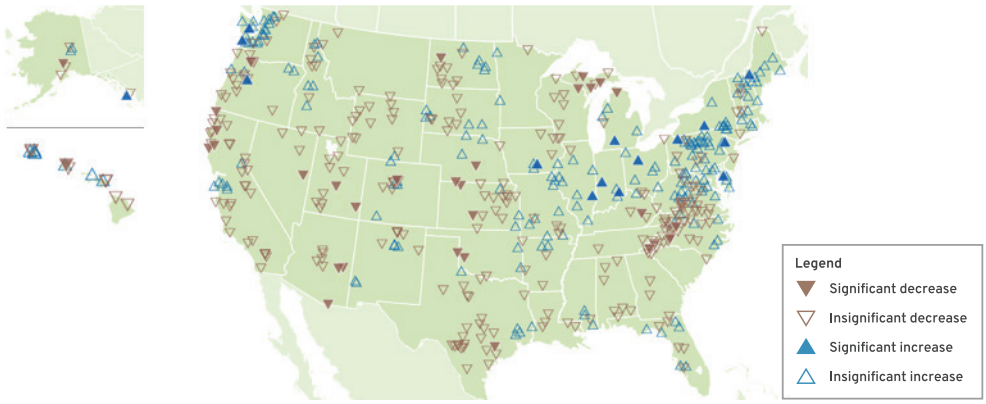
Natural Disasters and Insurance Costs

As the frequency and intensity of natural disasters worsens, the insurance industry and consumers suffer financially. Figure 1, on the following page, highlights the increased incidence of U.S. flooding, which can damage and destroy crops and farmlands. Damage may include soil erosion, contamination and sometimes harm to farming equipment.[19] Such damage can render crop yields unusable or impede growth—issues that cause a significant impact to the insurance industry. Damage to farmlands from flooding and excess moisture has caused federal crop insurance indemnity payouts to nearly quadruple over a 25-year span, from $685 million in 1995 to $2.61 billion in 2020.[20] Flooding is only one of several environmental concerns causing increased harm to farmlands and taxpayers. Drought, hail and extreme temperature variations also have a significant impact. In total, these weather events have caused federal crop indemnity payouts to grow from $1.56 billion in 1995 to $8.53 billion in 2020.[21]

During the same time period, FCIP premium subsidies have grown substantially, in part due to increasing natural disasters. Crop insurance subsidies totaled $889 million in 1995 and grew to $6.31 billion in 2020. Of this, nearly $600 million can be attributed solely to increased flooding.[22]

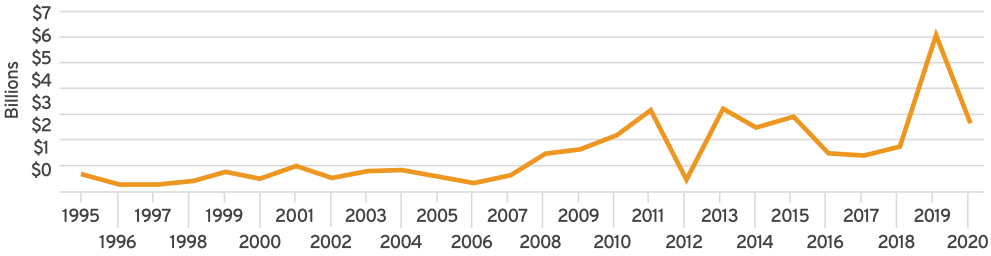
For the FCIC, this means more taxpayer funding is needed to cover crop losses that result from flooding and other natural disasters in the United States. According to data from the EWG, these costs have already increased significantly, with excess moisture indemnities increasing from $685 million in 1995 to $2.6 billion in 2020, as seen in Figure 2, on the following page.[23]

Figure 1: Change in the Frequency of River Flooding in the United States, 1965-2015



Source: "Climate Change Indicators: River Flooding," United States Environmental Protection Agency, August 2016. https://www.epa.gov/climate-indicators/climate-change-indicators-river-flooding.

Figure 2: Indemnities for Excess Moisture Increased Between 1995 and 2020 in the United States



Source: Anne Schechinger, "Crop losses from climate crisis cost billions of dollars in insurance payouts," Environmental Working Group, Jan. 27, 2022. https://www.ewg.org/research/crop-losses-climate-crisis-cost-billions-dollars-insurance-payouts.

Reform Measures

PROPOSED REFORM 1

Prioritize Sustainability, Resilience and Mitigation

The structure of the FCIP does very little to incentivize agribusiness and farms to prioritize sustainability, resilience and/or mitigation. In fact, it incentivizes them to do the opposite and take outsized risk to produce as much as possible on whatever lands possible to garner the highest profit possible from the government subsidies and payouts that are made in extreme loss scenarios.

Many of these failures are simply the result of government inefficiencies. Certainly, the entire process would be more efficient, less wasteful and more innovative if left to the invisible hand of the free market. But to operate under the current government-based structure, realistic solutions must be considered. Perhaps most importantly, FCIC subsidy rates should be reduced. Even incremental reductions in subsidies would incentivize agribusinesses to make less risky decisions.

In addition, the current environmental and sustainability programs should be restructured. Many FCIP approved and recommended practices are out of date and lack any environmental guidance. Instead, the program unintentionally rewards farmers for taking unnecessary risks and provides no incentive for mitigation.

Solutions to this problem include retroactively rewarding early adoption of mitigation practices, both for taking the initiative and for decreasing the strain on taxpayer resources by not requiring major government oversight. This may include retroactive subsidies for environmentally sound practices, like increasing cover crops and restoring natural ecosystems. Subsidies should reflect the degree of benefit and not exceed the taxpayer savings that can be incurred by said benefit. Lowering subsidies should be an overall goal of FCIP reform, but the

higher subsidy brackets should be reserved for farms that choose to engage in practices such as cover cropping and no-till farming.

Additionally, inefficiencies in these programs must be remedied, and Congress should require a significant percentage of funding to go toward the United States Department of Agriculture "climate smart" practices.

PROPOSED REFORM 2

Restore Natural Ecosystems

Restoring, and sometimes creating, natural barriers is a viable and realistic solution to addressing the environmental risks of the FCIP. Although it appears that it may not be realistic to completely eliminate runoff into the Gulf of Mexico dead zone, certain sustainability practices, such as planting cover crops and filtering runoff through wetlands, can significantly reduce nitrogen pollution making its way into the Gulf with minimal impact to farming practices.[24]

According to research, using only 3 percent of existing wetlands as a natural filtration system for pollution runoff can reduce nitrogen pollution by up to 45 percent.[25] When combined with other mitigation efforts, including planting cover crops and better managing fertilizer use, the same reduction can be achieved using only 1 percent of existing wetlands. Wetlands can also absorb and store carbon, reducing atmospheric penetration.[26]

In addition to the benefits to water and air quality, wetland filtration can reduce farmers' risk of flood and drought.[27] Wetlands act like a sponge, absorbing water runoff and excess rain, which reduces impacts of flooding and releases groundwater during times of drought. Unfortunately, to maximize total available farmland, farms across the nation have deliberately drained wetlands. This increases susceptibility to flooding and renders potential wetland benefits useless.

Thus, restoring natural ecosystems can help improve environmental quality and agricultural output while reducing costs for the FCIP and taxpayers.

PROPOSED REFORM 3

Reform "Good Farming Practices"

The FCIC lays out standards and procedures, called "good farming practices," which are used by approved insurance providers (AIPs) for insurance payout determinations.[28] These practices are a vital aspect of farmers' and producers' businesses, as they must be adhered to in order to maximize FCIP benefits. Though a few environmental requirements are incorporated into these standards and procedures, such as cover cropping, many beneficial environmental strategies are not included. There is no mention of sustainability, resilience or mitigation requirements. In a typical insurance product, implementing these types of strategies would result in policy premium reductions, akin to "safe driver discounts" for automobile insurance.[29] A vital shift in the FCIC's approach to preparedness for environmental impacts on agriculture would be enveloping beneficial sustainability and mitigation efforts in their expectations for "good farming practices." Such efforts might include increasing natural barriers, reducing air and water pollution, reducing water waste and increasing resilience to storms.

PROPOSED REFORM 4

Equate Environmental Benefits with Financial Benefits

Though it is not an apples-to-apples comparison, data from the Federal Emergency Management Agency (FEMA) shows that for each dollar spent on natural disaster mitigation, $6 is saved in federal disaster funding.[30] By prioritizing mitigation and sustainability and reducing incentives for risky farming practices, environmental and financial benefits can be realized. Education on the environmental and financial impacts of mitigation is vital for every party involved in the FCIP, including AIPs, farmers, lawmakers and taxpayers, to ensure that they understand how mitigation and sustainability efforts can both improve the quality of air, water, soil and foods and also save money in the long run.

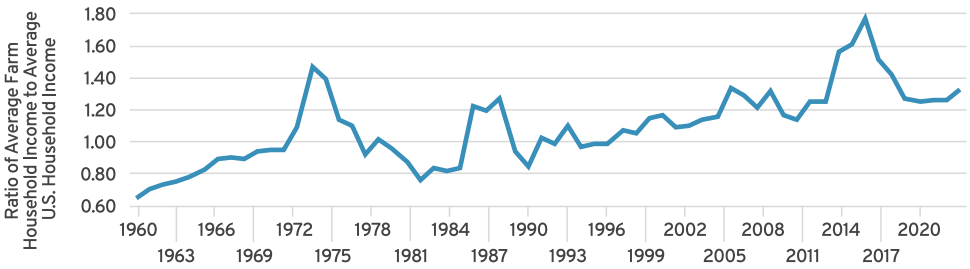
PROPOSED REFORM 5

Operate as an Insurance Product

Very little of the FCIP is a true insurance product; in practice, it is far more similar to a price and income support program. The program's scope creep means it pays farmers for

losses occurring outside of natural disasters, provides revenue protection and pays out for normal price fluctuations in the market. Essentially, the FCIP and its various subsidy and ad hoc programs provide guaranteed income to farmers far in excess of the average American household income, as shown in Figure 3. Government payouts accounted for 39 percent of farmers' net income in 2019, an inconceivable revenue model in nearly any other industry.[31]

Figure 3: Ratio of Average Farm Household Income to Average U.S. Household Income, by Year



Source: Economic Research Service, "Farm Household Income and Characteristics," United States Department of Agriculture, Feb. 7, 2023. https://www.ers.usda.gov/data-products/farm-household-income-and-characteristics.

Instead of continuing to provide outlandish subsidy rates and payouts for normal business risk, including price fluctuations, the FCIP should exist simply as an insurance product that allows farmers to purchase coverage to protect their businesses from natural disasters, including extreme temperature shifts. While some subsidy is necessary given the national interest in supporting agriculture and maintaining food supply, subsidies should be greatly reduced, especially for the wealthiest of agribusiness owners who are not required to undergo means testing to receive benefits.

Further, it is vital that actuarially sound rates be implemented across the board, with significant costs differences for farms and farming practices that are environmentally unsound and lack any sustainability and resilience strategies. Insurance businesses understand that mitigation efforts and resilient practices typically result in fewer loss payouts in the face of disaster. This gives them a serious business incentive to reward mitigation behaviors, thus giving their customers the same incentive. Mitigation and resilience could also better equip industry to handle natural disasters and strengthen global food supply.

The FCIP's disconnect from any free-market principles sends incorrect price signals and encourages risky farming practices that have led to serious environmental concerns including degradation of land, pollution and increased greenhouse gas emissions.

Conclusion

The FCIP's disconnect from any free-market principles sends incorrect price signals and encourages risky farming practices that have led to serious environmental concerns including degradation of land, pollution and increased greenhouse gas emissions. Incentivizing engagement with conservation and mitigation should be a top priority of FCIP reform. This would bring environmental, financial and stability benefits to the farming industry with little to no downside, as many of the potentially beneficial reforms would have minimal impact on available farming lands, such as better use of wetlands as natural pollution filters.

The Dust Bowl of the 1930s was a clear example of what can happen when lands are overused and abused. Many lessons were learned that improved agricultural practices and advanced technologies. Yet the current system manages to incentivize the very thing that led to the devastation of the 1930s: the overuse of land and farming on land that is not optimal for crops. Legislators and administrators of the FCIP would be wise to consider the program's foundational purposes and initial reason for existence and institute reforms that prioritize and incentivize environmental mitigation strategies.

About the Author

Caroline Melear is a resident fellow for R Street's Finance, Insurance and Trade team. She researches topics in finance, insurance and trade with an emphasis on financial regulations, Florida homeowners' insurance, and property and casualty insurance. She has presented on crop insurance multiple times to a variety of audiences.

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