Crop insurance is best suited to protect against yield disasters

In this last column in our months-long discussion of a set of farm policies that are designed to respond to the market failure that is a well-documented characteristic of crop agriculture in the US and around the world, we want to turn our attention to an important role that crop insurance should play in a well-rounded set of farm policies.

At the time the current farm bill was being debated, crop revenue insurance was talked about as a counter-cyclical program. That is, it would make a payout in the case of a drop in price as long as the percentage decline in price was greater than the percentage increase in yield above the established yield covered by the policy. The big unstated caveat in this thinking was the expectation that crop prices, on average, would remain near or well above the full cost of production.

They have not and now farmers are paying insurance premiums for revenue insurance that guarantees them revenue calculated on a price that is significantly below the cost of production for many-to-most farmers. If the government were not subsidizing 60+ percent of the premium, no one would give such a product a second thought.

Counter-cyclical programs are to be just that: counter-cyclical. They should remain unused, paying nothing when prices are high. But when prices are below some measure of the cost of production they should kick in and provide farmers with enough revenue that they can survive and plant another crop.

The revenue insurance program we now have is not a counter-cyclical program by any stretch of the imagination. Currently, it makes the biggest payments to farmers when prices are, or have been, high. And if prices increase between the time the insurance is purchased and harvest time, payments can become even larger for farmers who took the harvest-time option.

The lowest payments are made when the price used to compute the "revenue guarantee" is below the cost of production and remains near that level at harvest. And once the prices are down and if there is little movement in prices and yield, farmers will get little to nothing from the revenue insurance program when they need it the most.

The reason that revenue insurance is not counter-cyclical is that it is based on a market-following design. It uses a measure of the expected harvest-time price to calculate coverage when the policy is purchased whether that price is high or low.

The other problem with revenue insurance is that it insures a systemic risk (price), something that unsubsidized insurance products do not do. Price affects all farmers and can continue for multiple years. No company wants to take the risk of financial ruin by offering unsubsidized policies that cover systemic risk.

The reason traditional insurance works is that it covers a random risk. No one knows who is going to be affected. And insurance companies work to make sure that people do not collect when they trigger an insurable event, say the loss of a building by committing arson or suicide. They also don't insure property against systemic risks like an act of war because it can affect all properties in the war zone and could bankrupt the company.

But there is a role for a crop insurance program as a part of a comprehensive farm bill. We could use crop insurance to do what insurance is designed to do—cover random risk. For crop agriculture, the random risk is yield, and while it is not completely random and occasionally it occurs across a wide area affecting most farmers, it is the best tool we have to deal with

droughts and other events that result in significant yield losses. The price used in the payout would be the loan rate (see our discussion of setting the loan rate in column 848 http://tinyurl.com/hh5v3wz).

Using crop insurance to cover yield losses is significantly better than depending upon ad hoc disaster bills like we did in the past. Ad hoc disaster bills were usually only enacted when the disaster covered a wide area, garnering the support of a sufficient number of senators and representatives to move the legislation forward. By using insurance, farmers who are affected by a more localized drought would be able to make a claim.

The criticism of using crop insurance as a means of protecting farmers against a yield disaster is that it introduces an adverse selection bias into the program—a bias that also affects the current revenue insurance program. Farmers in more drought or early-frost prone regions will find the program advantageous, while farmers in an area like the central corn belt will opt out because they have a low risk of experiencing yield problems large enough to trigger a payment. Farmers in marginal areas for a given crop have an incentive to plant it if in a good year it can be expected to a) provide more net revenue per acre than the best competing crop and b) be fully covered by crop insurance.

But compared to the unpredictable nature of ad hoc disaster programs, we think farmers will be better served by maintaining a crop insurance that covers yield losses. Conditions can be put in place that limit the level of insurance in areas where a crop is likely to experience a yield problem in say 3 out of 5 years.

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