

## PolicyPennings by Daryll E. Ray & Harwood D. Schaffer

# Price and yield (and revenue) risks: Is insurance up to the task of handling them all?

Over the last several decades, most discussions of farm programs for crop farmers have included the concept of risk management as a means of distinguishing newer programs like crop and revenue insurance from more traditional programs like nonrecourse loans and supply management. And as Congressional activity heats up for the 2012 Farm Bill, risk management is the central justification for most of the commodity title program proposals.

Crop farmers face two major kinds of risks that need to be managed: price and yield. Either one of these or both taken together affect the revenue that a farmer receives to cover her expenses and hopefully provide a profit. There is nothing in any farm program that can or should substitute for good financial and agronomic management. Risk, on the other hand, is what happens over and above the level of financial and agronomic management and is, to some greater or lesser extent, beyond the control of the farmer.

While price and yield together determine crop revenue, it is important to look at price and yield separately because they have different characteristics.

The general price level of a major crop is beyond the control of a given farmer. Yes, good financial management may yield a farmer a quarter a bushel more than his neighbor, but when corn prices are at the \$2.00 level it is highly unlikely that a farmer is going to receive \$6.00 a bushel. Similarly when prices are at the \$6.00 a bushel level, even the poorest marketer around is likely to receive at least \$5.00, a number well above the cost of production.

Price is what is called a systemic risk. It affects all farmers across the country without regard to their agronomic and management ability. And, there is little that an individual farmer can do to affect the supply and demand interaction that results in a low price—farmers are price takers not price makers.

Insurance is unsuited to take on price risk because price risk is systemic. There are two consequences of this systemic risk. First, when farmers take out insurance to protect them at a given price and the price falls below that level, it does so for all farmers. That is akin—for property insurance companies—to all of the houses in the country burning down in a given year. It would bankrupt those companies.

Thus the stability of crop insurance companies offering insurance that includes a price component must either receive massive subsidies to stay in business or they must raise their premiums to a level that would

make them unpalatable to most farmers.

Second, when price enters a multi-year period of decline, insurance provides less and less protection as the prices fall. At some point the expected price that is offered in an insurance contract will be below the cost of production and offer no real protection at all. That is why some analysts are coming to the realization that crop insurance that includes a price component in its calculation does not provide an adequate safety net for crop farmers.

Yield on the other hand is more random in nature and depends upon events that are less predictable: weather and disease. A half a dozen counties in central Illinois can experience a yield disaster as the result of a localized drought while neighboring counties can see record yields. It would be rare that all farmers across the US would experience a yield disaster in the same year.

It is this random nature of yield loss that makes crop yields a more appropriate target for crop insurance, especially if different areas are rated for their relative risk of yield loss. This is akin to offering lower fire insurance rates for a brick building with a sprinkler system than a frame building with no sprinkler system. Assuming that farmers engage in good agronomic practices—that is they do not game the system—yield insurance is an excellent way to protect farmers from a weather- or disease-related disaster. If this type of insurance program is properly managed, it is superior to making crop farmers dependent upon a Congressional for an ad-hoc disaster program.

As crop insurance programs have morphed into revenue products, the different types of risk represented by price (systemic) and yield (random) have been ignored. And, as long as prices remain high, the chance of farmers (and government as the insurance underwriter) experiencing problems with combining these two kinds of risks is minimal.

What happens in an era like today is farmers get focused on within-year risk and shallow loss farm programs based on an expected price at planting time which is generally greater than the price at harvest, guaranteeing farmers a profit at times when even the lowest price is well above the cost of production. As a result, the demand for farm programs is for ones that protect against this shallow-loss.

At the same time, it is easy to forget that one of the major functions of farm programs is to provide farmers with a safety net when everything collapses.

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Shallow loss programs when the anticipated price at planting is well below the cost of production are of little use. All they do is guarantee a loss on the crop.

From our perspective, by ignoring the two different kinds of risks and bundling them in a single program, policy makers risk losing support for farm programs in general. It is very likely that the public will come to view shallow-loss programs in the same way they have come to view direct payments—large payments when farmers are already making a good profit. And this loss of good will on the part of the

general public will make it more difficult to design a safety net when prices collapse and farmers are in real trouble.

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