CROP INSURANCE— PRIVATE CHOICE for PUBLIC CONCERN
The Company's Role

By

Steven C. Griffin
Vice President
IGF Insurance Company
Des Moines, IA

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Good news—Farmers respond to incentives.
Bad news—Farmers respond to incentives.

Introduction
The title of this presentation implies that private choice and public concern are not always the same and that there is a role for insurance companies to make private choices more attuned to public concerns. We have heard from previous speakers in this session how private markets and private insurance innovations can internalize externalities (Skees) and reduce obstacles for adoption of improved practices (Cubie).

Private markets can efficiently allocate the costs of public good (the reduction of atmospheric CO^2) between alternative systems of reduced emission or sequestration. Cubie has explained how win-win situations can be created between agricultural producers and environmental concerns with the substitution of financial risk instruments for potentially adverse, physical inputs like fertilizer, pesticides, herbicides, and tillage (increased soil erosion). Some of these potentially injurious inputs are applied in greater amounts for contingent effects (risk). These environmentally sensitive inputs can be reduced with minor yield impacts on average and a portion of the resultant input cost savings can be used to fund insurance that indemnifies when the adverse contingency occurs. The producer has lower costs and as an extra benefit less load is put on the environment. In this presentation, I would like to explore how the insurance mechanism can be used to change the economic playing field such that public and private goals are on the same side.

The Company's Role
Insurance companies are financial institutions that traditionally administer the payment of claims under contractual terms (i.e., insurance policies) from pools of accumulated financial resources mostly gathered from policyholders. Insurance companies pool risk. Risks are taken only to the extent that there remains some volatility in the expected results of the risk pools. Increasingly, insurance companies are being called upon to take on more systemic risks. They are also evolving into multi-faceted risk management institutions that bundle and package various risk management services, information, and risk transfer services. An insurance company quantifies risks, diagnose causes of losses, indemnify insured losses, collect information, and monitor results. With contractual investigative power, insurance companies are unique partners in the business world.

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A Level Playing Field

To illustrate my point, I would like to use the analogy of a playing field in a field sport like football or soccer, and maybe hockey.[2] In the era of domed stadiums, perfect grass, and laser-leveled playing fields, the significance of the playing field advantage is sometimes forgotten. On those fields of football, the initial flip of the coin decides who chooses who will take first offense (receiving team) versus first defense (kicking team), a strategic decision. The choice of which goal or endzone to defend is inconsequential. There are those games, when the wind is howling through the goal posts or one end is flooded that the choice makes a difference. Yet one also knows that the sides will be switched before the game is over. However, in the much different game where business survival is the goal, the side taken initially on the playing field can determine the outcome. The deciding team is not guaranteed the opportunity to play long enough to switch sides.

In these economic games, the playing field is also seldom fixed. Changing the playing field during the game can be as much as part of the game as the strategies actually played on the field. Although games can be won in an uphill fight, the victories are less than on a level field. Having the downhill advantage makes the win easier and quicker.

Observers of these games sometimes do not see the relative level of the playing field. It is as if they view it from the Goodyear blimp above---what may appear fairly flat can be highly pitched in a certain direction. The pitch may only be discernible as we watch the play and notice the way the ball rolls or how play is concentrated in a certain portion of the field. We may have thought the game was rigged to go one direction only to find the game going the other way. The answer lies in that the playing field is more than one facet deep.

The Three R's

What makes a field level or pitched depends upon three accumulating layers---the three R's---Rules, Revenues, and Risk. Each of these levels is not uniform across the field and most times favor one endzone or goal over the other. Taken together the pitch of one can be enhanced or reversed by another layer. This is not a game of paper, scissors, and rock. If only one layer is viewed or considered, the advantageous goal may not be obvious.

Rules

Rules or regulatory controls can determine a game. As a matter of public policy, rules are sometimes designed to be uniform and level. Equal protection under the law, civil rights, and anti-trust are examples of field leveling rules. Other rules, like affirmative action, zoning, shipping preference, etc. pitch the field toward public goals. Some rules like prohibitions try to stop play altogether by creating a very steep slope or create out-of-bounds lines. Rules and regulations are relied upon to modify the game's outcome that otherwise might occur. But rules are not all powerful. They generally require voluntary compliance in order to be efficient and effective. Seldom is there enough police power if the other layers are strongly adverse. For example, the production, distribution, and use of illegal drugs continue despite a multitude of laws and rules and considerable police efforts---the revenue and risk layers offset the rule. Rules can be clearly advantageous and still not followed even with full knowledge and education. How

[2] Of course, in this illustration of using a playing field, there are only two goals, one more advantageous than the other. In reality, there can be multiple goals in multiple dimensions.

else do you explain people who speed in traffic, smoke, overeat, or never exercise. They all know better.

Revenues

Economic incentives are powerful. Expected revenues, costs, and returns favor one production technique, product, or consumptive practice over another. Of course, economists would say that the give and take of supply and demand, production and consumption, would eventually reach an equilibrium in which everything is equal and our playing field level. I would say economic adjustments move us in the direction of equilibrium but before we get there something happens and the playing field tilts again. Suffice to say if you do not understand why things are the way they are—you can use that famous still-unidentified Washingtonian's advice of 25 years ago—"follow the money". Consumers reward producers that satisfy their wants and needs with exchanges of money. Producers reward their input suppliers and factors of production (labor, capital, land, and natural resources) similarly. Consumers sell their owned factors of production in order to buy what they want or need. Economic revenues are tilted toward products and services desired by the consumer directly or indirectly.

As a matter of public policy, we have pitched the revenue layer with all sorts of slanted revenues. Differential taxation and subsidies attempt to tilt the revenue layer one way or another. These are effective but can be very costly.

Risk

The final determining layer is probably the one most overlooked. If the rules are supportive and the economics advantageous for the goal---why isn't team playing on that end of the field? As we have heard today, the answer is risk. Risk is the third layer. Aversion to risk and the inability to take certain risks can negate the other two layers. Insurance and other risk management strategies do allow the risk layer to be trimmed at the expense of some of the revenue layer. Risk can also be transferred to the public and the layer flattened. Examples of these strategies are the federal crop insurance program, the federal flood insurance program, loan guarantees through FSA, import-export bank, and others.

Private Choice versus Public Choice

In most cases, the public choice wins when the (private) team with the field advantage wins, because the public built the arena in the first place. The winning team is producing a product or service that the public wants. The desires of the consumer pitch the field in favor of that goal with revenue. Rules are generally are neutral and the risks are normal and acceptable (level) with revenues. But what if the public choice is not aligned with the incentives faced by the private sector? As we have already alluded, there are various tools that can slant the winning team toward the public goal. New rules or regulatory edicts can be rendered, but individual freedom and empowerment suffers. Subsidies and cost sharing can change the economics, but may distort markets and optimum resource use. Guarantees and public insurance can be issued, but more risk rather than less can result. The question is which is most effective, which is most acceptable, and which is most efficient. I prefer private decision-making for public choices rather than public decision-making for private choice. Private decision-making is a skill and a resource we should not allow to languish or go undeveloped.

A Family Example Using Insurance

The Griffin family has currently two underage male drivers. Automobile transportation is a modern day necessity and insurance is mandatory. How does the family (public) goal of safe driving and low cost transportation equate with the sons' (private) propensity for speeding and accidents. Parental rules (Rule layer) are largely ineffective *a priori* due to out-of-sight, out-of-mind consciousness and state laws against child abuse. Risk is equally unappreciated---no one expects to get caught or accidents happen to him or her. The determining layer is economic and insurance causes the slant. Mom and Dad pay for the vehicles, but the sons' pay for their insurance costs and fines. Excessive speeding tickets provide both direct and indirect (higher insurance rates) economic disincentives. Accidents similarly have economic consequences. Plus, older four-door sedans are much more acceptable, good grades lower insurance rates, and the insurance company is both monitor and executioner. Of course, no insurance company can take over your parenting, but it can tilt the playing field and empower independent decisions that support the common (family) goal.

An Agricultural Example – Bt Refuge Management

There is a current controversy concerning the renewal or permanent registration of transgenic seedstock expressing the Bt insecticide. Organic farmers and environmental groups are concerned that the widespread adoption of Bt-technology in field crops will create resistant insects and render useless a powerful insecticide for which organic farmers have few, if any, substitutes. Major field crop seed providers see Bt-crops as a major bio-technological innovation that provides significant positive economic returns to producers. Bt-varieties, under conditional approval, have been widely accepted with a 50 percent market penetration in only three crop years since introduction.

One major method to manage (i.e., delay) Bt insect resistance is through establishment of nearby non-Bt insect refuges. The idea being that any resistant insect that might emerge from Bt acres would mate with susceptible insects from nearby refuges with overwhelming probability. NC-205 entomologists have reached a consensus and the seed industry has agreed that a 20 percent, untreated refuge should suffice for Bt-corn. The seed industry proposes to require farmers purchasing Bt-corn to plant the 20% refuge to non-Bt corn via grower agreements made at time of purchase---the rule layer. The revenue layer of the playing field is advantage 100% Bt-corn and no refuge. The risk of significant yield loss to untreated refuge acres to corn borer is also high---advantage 100% Bt-corn and no refuge. Furthermore, with multiple suppliers of Bt-corn, a producer can easily purchase 100% of his needs in Bt corn. Plus, the industry's proximity requirement is county based and not easily tracked. Looking at this playing field, there is obvious reason to suspect that the team for resistance management will have an uphill fight. While many farmers will dutifully obey the rules, the economics are potentially overwhelming.

However, an insurance program might be able to level the revenue playing field. If an insurance policy could indemnify the refuge acres to the same benefit level as the Bt corn protects the Bt acres from insect damage, the incentive not to plant refuge acres would be removed. The insurance coverage would only provide such benefits if the refuge were sufficiently large and proximate to the Bt acres to satisfy the resistance management plan. The cost of the refuge insurance would be borne in the seed cost of the Bt. Therefore, the producer in compliance with the resistance management program would receive extra benefits at least equal to the economics provided by non-compliance. The refuge insurance policy would also provide greater benefits in heavy

insect outbreak years (and less in low-pressure years) just like the Bt technology (risk layer). In addition, the insurance administration would document compliance and non-compliance by a non-seed third party. Of course, this insurance solution would cost some administrative costs that would lower the net returns to Bt-users and technology owners in the short run. On the other hand, reduced returns in the short run may be made up in the long run by increasing the business life of the Bt technology and as a reasonable defense against those who desire outright prohibition of the technology.

Conclusion

Private and commercial decisions are influenced by the cumulative effects of three underlying layers---economic revenues, regulatory rules, and risk. The playing field on which private and commercial decisions are made can be slanted advantageously toward certain goals. Private choice can be steered toward public goals through changes in any of the three layers. Reliance on a single layer does not insure success. Insurance and other risk management vehicles can be developed that change the slope of the revenue and risk layers in order to encourage private choice for public concerns. Finding those areas of opportunity is my personal challenge.

References

Cubie, Jim. "Using Risk Management Tools to Increase Conservation Adoption". Agricultural Outlook Forum 1999. Arlington, VA. February 22-23, 1999.

Skees, Jerry. "Using Markets to Motivate Environmental Improvement". Agricultural Outlook Forum 1999. Arlington, VA. February 22-23, 1999.