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Understanding Agricultural Risk

Sarah A. Drollette
Department of Applied Economics
Utah State University

Farmers and ranchers deal with a significant amount of uncertainty every day. From not knowing what the weather will be like this year to wondering if market prices will increase or decrease tomorrow, agricultural producers are forced to make decisions based on imperfect information. Born out of this uncertainty is the possibility of injury or loss. Risk can be defined as the possibility of adverse outcomes due to uncertainty and imperfect knowledge in decision making. Each time a farmer plants his fields it is possible the weather will destroy his crops. Each time a feed-lot operation purchases calves, they risk a loss if market beef prices fall. And each time a dairy producer milks cows, he risks being kicked in the face.

Given the changing structure of the agricultural industry, managing risk has become vitally important to the success of agricultural operations. Agricultural risk can be separated into five general risk categories:

- Production
- Marketing
- Financial
- Legal
- Human

The first step to successfully managing risk is to understand and recognize the sources of risk.

Production Risk

Agricultural producers are in the business of production-taking certain inputs and transforming them into outputs (which outputs are hopefully worth more than the sum-value of the inputs). Some manufacturing companies have the luxury of knowing exactly how many outputs can be produced with a specific number of inputs. Farmers do not have that luxury. In agriculture, production is riddled with risks that can negatively affect production levels and lead to significant losses.

For a crop farmer, planting seeds does not guarantee a profitable yield at the end of the crop season. Output per acre likely varies by acre and year and can be suddenly devastated due to unforeseen weather factors such as drought, fire or frost. Wild animals, insects and other pests can negatively affect crop production levels and weeds can choke out growing crops. Crop disease can also be a significant source of risk in crop production. These and other unpredictable factors create a very real risk for crop producers.

Similarly, livestock and dairy producers must face risks tied to weather and wild animals or pests. Disease is also a very significant risk that could lead to reduced production or, in an extreme case, the shut-down of an entire operation. Unknown or uncertain quality of inputs can also pose risks to production levels.

The presence of any of these unpredictable risk factors can significantly lower production levels and lead to losses. Since production output is the main source of revenue for agricultural operations, it is crucial for farmers to recognize and manage production risk.

Marketing Risk

Closely tied to production risk is marketing risk. Marketing risk, which could also be referred to as price risk, deals with uncertainty about commodity prices and the possibility of a change in prices that would adversely affect the farmer.

Agricultural producers have little control over the market forces that drive commodity prices. Production levels and market supply and demand changes can cause large and unforeseen swings in prices. Furthermore, increasing global interaction in commodity markets and governmental influences add to the uncertainty surrounding market prices. Changes in consumer incomes, the strength of the economy, government trade and energy policies and exchange rates all affect demand for commodities and, by extension, commodity prices. These and other unpredictable factors make price forecasting a difficult and volatile practice.

Since input prices translate to costs for farmers and output prices translate to revenues for farmer, unfavorable prices on either side can be devastating to an agricultural operation. It is therefore imperative for farmers to manage marketing risk both on the input and the output side in order to maintain long-term profitability.

Financial Risk

Financial risk exists because of the need to finance business operations and maintain cash flow levels adequate to repay debts and meet other financial obligations. The ability to secure necessary loans is vital to many farm operations, but borrowing money introduces numerous risks. The willingness of lenders to supply loans now or to continue to supply needed funding in the future is uncertain and volatility in interest rates produces an added risk to borrowing. These risks are largely influenced by greater economic factors and changes in financial markets mostly out of the individual farmer’s control. In addition, changes in market values of loan collateral could also adversely affect agricultural producers’ ability to maintain a profitable enterprise.

Production and marketing risk also contribute to financial risk, relating directly to cash flows and the ability to secure and repay loans necessary for operation. Since production levels and commodity prices produce the revenue with which farmers can meet financial obligations, it is significant to recognize how interrelated these different types of risks are, and to make managing these risks an important priority.

Human Risk

Whenever people are involved with any type of business, significant risks are introduced. Agricultural operations are no exception. The possibility of death or disability of an owner, manager, or employee can easily threaten the survival of a farming enterprise. Divorce can also have a significant negative effect on the continued existence and profitability of an operation. Additionally, finding and training new employees and keeping good employees is a significant source of human risk for agricultural producers. Sickness and injury can considerably hamper farm production and profitability. Similarly, the interaction of employees with each other, managers, and owners introduces another significant level of human risk in farming operations. While not as obvious as other types of risks, these human risks cannot be ignored and must be recognized and managed if the farm enterprise is to be successful.

Legal Risk

Legal risks underlie all other types of risks. Production practices must conform to environmental laws and noncompliance could result in significant penalties or a law suit. Many marketing and financial decisions are subject to contract law, and inability to meet the terms of any contract agreement can also have serious legal implications. Farmers are also required to meet statutory obligations relating to tax reporting and payment, labor and wage laws, safety requirements and others. Tort liability is also a very significant source of legal risk to any farming operation. Tort liability includes damage to property or a person, whether intentional or simply negligent. Injury or death resulting on a farm property or due to farming practices can not only devastate a farming enterprise, but can have seriously negative personal financial and emotional results. Managing these legal risks, as well as the other types of risks, is vitally important to the success and longevity of agricultural operations and should be of high priority to agricultural producers.

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