

Managing Marketing Risk in Agriculture

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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. Among the risks farmers face 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.

Management Tools

There are many tools available to help farmers manage marketing risk from both the input and the output side. Which tools a farmer uses should depend on his individual farm situation and risk-bearing willingness and ability. An understanding of the tools available for managing market risk can help agricultural producers develop better marketing plans that can reduce those risks and increase profitability.

Strategic Buying/Selling

Strategic buying of inputs and selling of outputs can reduce the effects of marketing risk on farm profitability. Purchasing inputs for future use when prices are relatively low and expected to increase reduces the risk of being unable to meet increased costs if input prices rise. Similarly, selling outputs when prices are favorable and expected to decline reduces the risk of losses if output prices do fall. Strategic buying may necessitate storing excess inputs planned for future use that were purchased when prices were low, and strategic selling may also necessitate storing produced outputs for future sale if

current prices are unfavorable and expected to rise. Storage of commodities, however, can also introduce other types of risk (theft, spoilage, etc.) and the use of this tool will depend on individual farm capacity for storage and ability to manage inventory.

Insurance

The purchase of certain types of revenue insurance can also reduce marketing risk. Depending on the specific type of agricultural enterprise and individual farm characteristics, some of the available insurance programs may be useful tools to manage price risk. Some of these insurance programs include the Adjusted Gross Revenue (AGR) and Adjusted Gross Revenue-Lite (AGR-Lite) insurance programs, Crop Revenue Coverage (CRC) and Income Protection (IP) insurance for crop producers, and Livestock Risk Protection (LRP) and Livestock Gross Margin (LGM) insurance programs for cattle, dairy and other livestock enterprises. These insurance programs are designed to help farmers reduce risk of falling commodity prices and farm revenues. (For more information regarding insurance policies, visit the following USDA Risk Management Agency websites:

<http://www.rma.usda.gov/policies/> and
<http://www.rma.usda.gov/livestock/>).

Government Programs

Understanding and participating in government farm programs can also help reduce marketing risk. Several of the current government programs designed to help farmers include numerous producer price support programs for various commodities, disaster assistance programs such as the Supplemental Revenue Assistance Payments (SURE) program, the Average Crop Revenue Election (ACRE)

program for farm revenue support, the Milk Income Loss Contract (MILC) program for dairy producers, and many others. Many of these programs can be used by farmers to reduce the burden of price risk in agricultural enterprises. (For further information concerning government farm programs outlined in the 2008 Farm Bill, see the links provided on the USU agribusiness webpage: <http://extension.usu.edu/agribusiness/htm/farm-bill>).

Contracting

A contract is a legal agreement between buyer and seller and can be used to reduce marketing risk with inputs and outputs. A producer can forward contract with an input supplier for future delivery of the input at a specific price. Such a contract would protect the producer from higher costs if input prices increase. However, if input prices fall he is still required to pay the contracted price.

Similarly, a producer of an agricultural commodity can contract with a buyer of his commodity to sell a given amount for a specific price at some future time. By doing so, he removes the price uncertainty and the risk of a loss if commodity prices decline, but he also forfeits the opportunity to gain if prices rise. In addition, contracts require the farmer to deliver the agreed upon amount of the commodity at the agreed upon time, increasing the possible negative outcomes associated with production risk. Thus, it is important to also manage production risks to ensure the ability to meet all the terms of the marketing contract.

Hedging

Hedging can also be used to manage input or output price risk and involves the purchase or sale of a commodity futures contract. To reduce

input price risk, a producer would purchase a commodity futures contract. By doing so, he is obligated to purchase the contract amount of the input commodity at the expiration date of the contract. Before the contract expires and purchase is required, the farmer would resell the contract and purchase the input commodity on the cash market. If input prices had risen over the course of the contract, the producer would pay a higher price for his inputs on the cash market, but would also receive a higher price on his futures contract that would largely offset his increased costs for the inputs.

To reduce output price risk, a producer would sell a commodity futures contract, thus agreeing to sell the contracted amount of his output commodity at the expiration of the contract. Before the expiration of the contract, the farmer would repurchase the commodity futures contract; otherwise he would be obligated to deliver the commodity. By repurchasing the contract, the producer can then sell his commodity on the cash market. If cash prices had fallen over the duration of the contract, the loss of revenue in the cash market would be offset by a gain as the futures contract is repurchased at a lower price. Conversely, if cash prices had risen, the repurchasing of the futures contract at a higher price would also offset the gain in the cash market. Thus, any gains or losses incurred in the cash market would be offset by a corresponding loss or gain in the futures market, reducing price variability and market risk for the producer.

Options

To manage input price risk, a producer can pay a premium to purchase a call option, or the right, but not the obligation, to purchase an underlying futures contract. Thus, if input prices rise, the producer can exercise his option

and purchase the underlying futures contract and then sell the contract at the higher price to capture the gain. However, if input prices fall, the farmer is not obligated to purchase the contract or bear the offsetting loss on the futures contract. The premium is the cost the farmer pays to be protected against rising input costs, but he can still enjoy benefits from falling input prices.

To manage output price risk, a producer would purchase a put option. The put option is the right to sell an underlying futures contract. In this case, if the price of his output commodity fell, the producer would exercise his put option and sell the underlying future contract. The he would repurchase it at the lower price and offset his loss in the cash market. If commodity prices rose, however, he would simply sell the

commodity in the cash market and realize the gain from the higher price. Thus, the premium for the put option protects the farmer from falling prices, but he can still benefit if prices rise.

Given increased volatility in prices and greater uncertainty about the economy in general over the past several years, managing marketing risk has become more important to agricultural producers. There are many tools available to help farmers manage marketing risk. A greater understanding of the options available for managing marketing risk can help agricultural producers better plan and decide which risk management tools would be most beneficial for his specific enterprise.

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