



Sources of Institutional Financial Risks in Agriculture

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Background

Risk is endemic in agricultural production (USDA RMA, 1997). Agricultural financial institutions and agricultural cooperatives often derive risk from their borrowers and members. As members/borrowers' risks are realized, their abilities to satisfy debt repayment and contract delivery obligations are negatively impacted. Below we detail some of the numerous financial risks faced by agricultural lenders and cooperatives. Many of the risks faced by commercial banks and Farm Credit Services are identical, so they are discussed in one section below. Where noted, risks unique to Farm Credit are discussed. In a subsequent section, risks faced by agricultural cooperatives are discussed.

Commercial Banks and Farm Credit Services

Production risks and crop insurance

Most sources of institutional financial risks are derived from borrowers' risks, namely risks faced by agricultural producers. First among these risks are production risks, including droughts, floods, excessive heat, frost, hail and pests. While many production risks can be mitigated with crop insurance, the current Farm Bill extension expires in fall 2013. Competing bills from the U.S. House of Representatives and the U.S. Senate differ in the extent of crop insurance reform. As of mid-October 2013, no conference committee meetings had been held to reconcile the two bills.

Government policy and legislation

Uncertainty over government policy and law creates risk for both borrowers and lenders. In addition to crop insurance reform issues, the lack of a Farm Bill creates uncertainty regarding farm subsidies. Tax law uncertainties such as estate tax law and health care legislation create risks for agricultural producers. Tax law treatment of farm estates creates difficulties and costs in transferring farms across generational lines. Another policy area impacting financial risk is the newly enacted health care law. Many small farmers have not previously purchased health insurance. By January 1, 2014, they are required to purchase insurance or be fined/taxed, even though the initial fine/tax is low. Uncertainties over the Farm Bill and health care policy and insurance availability make farm business planning difficult for borrowers and lenders.

Collateral values

With the run-up in farmland values, collateral risks have increased. Even though leverage has not substantially increased, the amounts borrowed against land purchases create risks of large lender losses if asset values collapse and borrowers default. With 65%-70% of many land purchases financed, exposure to downside risk increases as land values increase. Investments in grain drying and storage allow producers to take advantage of high corn prices. However, current grain prices are dependent, in part, on continued renewable fuel standards. If these standards are relaxed or eliminated by a future

Congress and President, the price of corn and value of storage investments will likely decline. Again, this raises the possibility of loan losses due to default.

Farmer demographics

The continuing trend in a bi-modal distribution of farm size creates a lack of diversity in borrower size. Large farms are generally full-time, commercial farms that are large enough to financially support one or more families. Small farms are generally part-time farms with the main source of income from off-farm. Mid-sized farms have largely disappeared from the countryside. The financing requirements of large-sized farms can run into the millions of dollars; requirements of small-sized farms are usually much more modest. The dearth of mid-sized farms leaves a gap in demand for moderate financing needs. So, portfolio management for agricultural lenders can be challenging. Portfolio management is further complicated by the low use of operating notes, especially by small farms. This leads to a large percentage of agricultural lenders' portfolios in real estate loans. These loans have longer expiration dates and are subject to greater collateral risks.

Farming is an aging profession. The average age of agricultural producers continues to creep upward and is currently over 57 years of age. In the next 10-15 years, huge swaths of agricultural land and other assets will change ownership. Planning for farm transition is largely undone, both by farmers and their agricultural lending institutions. How those farms will be transferred, owned and operated is largely unknown. There is, however, the potential for a large spike in demand for financing as farms are sold to cover estate tax obligations or as farming heirs buy out non-farming heirs.

Agricultural lending institution risks

There are several risks that originate within the financial sector and its lending institutions. Like farming, agricultural lending institutions suffer from "grey hair syndrome." An aging workforce poses many challenges for agricultural lenders. Demands for health care as their employees age will lead to

increases in insurance premiums. In the next 10 years, a large, but unknown, percentage of the lending institution employees will turn over. This leads to a lack of institutional memory. Younger employees are less likely to have learned the lessons of the 1980's agricultural lending meltdown and are less likely to understand that current interest rates are abnormally low. Soon, the 18%+ interest rates of the 1980s and the havoc wreaked on the agricultural lending sector from farmland devaluation may be forgotten. And soon, lending institutions will find themselves competing for more employees to fill age-induced vacancies in an environment with a smaller pool of applicants with an agricultural background.

The current abnormally low interest rates will eventually increase. How and when the Federal Reserve tightens the U.S. money supply will have large implications for agricultural lenders. Institutions that have failed to fully protect against interest rate increases will see loan margins on existing loans disappear. Because of the unique funding source of Farm Credit Services, fully locking in loan margins is not possible.

Growth is a challenge for agricultural lenders. The quantity of land is fixed. And, borrowers often develop long-term relationships with lenders and may rarely switch to an unknown lender. The increase in the number of large farms leads to fewer and larger loans and to bidding wars that result in low loan margins and increased susceptibility to default risks.

Agricultural Cooperatives

The risks faced by cooperatives differ considerably from other agricultural institutions. In general, agricultural cooperatives can be viewed as an extension of the farm firm, allowing the farm operator to achieve economies of scale and market power in purchasing inputs and marketing farm commodities. Cooperatives also manage risk for their producer-members both by managing market transactions and

by pooling risk across members. Discussion of the risks facing farm operators rarely includes the risks of farmer-owned cooperatives. The basic business model of an agricultural cooperative is to price inputs and commodities at the prevailing market price and distribute their net earnings to the member patrons in proportion to usage. This profit distribution, or patronage refund, is made in both cash and in stock that is later redeemed for cash. Since cooperative stock is not publicly traded, member owners do not have the opportunity to diversify their investment. Risks impacting the cooperative reduce the members' cash returns and increase the time period before previously issued equity can be redeemed for cash. Higher levels of risks create the threat of bankruptcy of the cooperative resulting in the loss of both members' equity and of a marketing or supply outlet.

Low margins and risk management services

Agricultural cooperatives tend to operate in low-margin, commodity-based sectors. Many operate in narrowly defined geographic, product and enterprise markets. Because of these factors, they are often less diversified relative to similar investor-owned businesses (Manfredo and Richards, 2007). In addition, many cooperatives offer risk management services to producers which create risk at the cooperative level. For example, offering producers forward contracts on grain sales creates cash flow risks from margin calls and counter party risk of grain delivery for the cooperative. The cooperative's system of creating equity from the profit stream limits firm access to equity and can require the cooperative to increase leverage during unprofitable periods.

Commodity price volatility

In recent years the risk profile for cooperatives has increased substantially. Since 2006, the average annual variation in price for corn, wheat and soybeans has more than doubled from the prior 15-year period (Kowalski, 2012). The compound effect of higher and more volatile prices has dramatically

increased the need for working capital financing at elevators. Lines of credit in excess of \$50 million and daily margin calls of \$1 million or more have become much more common even for some relatively modest-sized country elevators. These levels of capital needs would have seemed improbable only a few years ago (*ibid*). Fertilizer has shifted to a global supply chain and, similar to grain, prices and price volatility have increased dramatically. Farm operator demographics also contribute to cooperative risks. The counter party risk represented in the input inventories, accounts receivable and grain contract positions for a single producer can be a substantial amount of a cooperative's total equity. On average, cooperative equity represents less than 5% of producers' total farm assets (USDA ERS). However, cooperative equity can represent a significant portion of an individual producer's net worth, particularly for an older patron just below the cooperative's equity retirement age.

Opportunities

There are unrealized opportunities to develop new cooperative structures to manage risk. Machinery-sharing cooperatives provide the opportunity to significantly reduce machinery ownership costs while maintaining the timeliness of operations (Long and Kenkel, 2007). Some of these structures evolve to also include labor sharing and even production sharing which generates both scale economies and geographic diversification. Another opportunity is condominium grain storage cooperatives where a group of producers invest in a large-scale grain facility. The producer members receive usage rights in proportion to investment, and the facility is typically centrally managed. Relative to on-farm storage the members reduce their per bushel investment and reduce the risk of storage losses. The storage usage right can be sub-leased or the entire ownership share can be transferred, making the investment less risky relative to on-farm storage. These examples illustrate the importance of including the cooperatives, both existing and new, in discussions of agricultural risk.

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Printed by University of Arkansas Cooperative Extension Service Printing Services.

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SRME01FS-PD-12-13N