7-30-1986

Lender Attitudes and Practices Towards Agricultural Marketing Alternatives: Implications for the Extension Service

Brian Schmiesing
South Dakota State University

Mark Edelman
South Dakota State University

Cindy Swinson
South Dakota State University

Tyler Stowater
South Dakota State University

Lender Attitudes and Practices Towards Agricultural Marketing Alternatives: Implications for the Extension Service

by

Brian H. Schmiesing, Mark A. Edelman,
Cindy Swinson, and Tyler Stowater*
Economics Staff Paper No. 86-3
July 1986

Presented

at

American Agricultural Economics Association
Reno, Nevada
July 28-30, 1986

---

* Dr. Schmiesing is an Assistant Professor in the Economics Department at South Dakota State University, Dr. Edelman is an Associate Professor in the Department of Economics at Iowa State University. Ms. Swinson is a former Research Associate and Tyler Stowater is a former Graduate Research Assistant at South Dakota State University.

** We would like to thank Dr. Richard Shane and Dr. Larry Janssen for their review of this publication.

Lender Attitudes and Practices Towards Agricultural Marketing Alternatives: Implications for the Extension Service

The Food Security Act of 1985 has resulted in a major reduction in the loan support prices for grain commodities (Stucker and Collins). The lower loan support prices combined with the lack of export demand and excessive inventories have caused grain prices to decline significantly below price levels previously experienced during the early 1980's. Although deficiency payments may partially offset this price decline for grain producers, the long term impact of the policy change will be increased price risk for grain and livestock producers.

As the federal government program moves towards a market oriented grain pricing system, grain and livestock producers are going to have to increase their use of private market alternatives to stabilize their input and output prices. If producers do not increase their use of these alternatives, they will have to accept the increased price risk (Babb, et. al.).

These private market alternatives include various forms of forward pricing contracts, futures markets and agricultural commodity options. However, for many producers this change in marketing strategy is going to require the retraining of management, the development of marketing information systems, and the cooperation of their agricultural lenders.

Extension Service efforts to increase producer use of marketing alternatives have usually concentrated on training producers. However, the agricultural lender is an important

factor in determining producer use of marketing alternatives. For hedging and a number of option strategies, a line of credit from the lender may be necessary to meet margin requirements (Kenyon). If lenders limit the availability of credit because they do not understand or know how to monitor the use of a specific marketing alternative, a producer's ability to use the marketing alternative will effectively be limited.

This paper presents an analysis of agricultural lender attitudes and practices in the area of agricultural marketing. Survey responses from senior agricultural loan officers in commercial banks, Production Credit Associations (PCAs), and Farmers Home Administration (FmHA) are analyzed. Reviewed first are the implications of lender practices on producer risk management strategies. The survey methodology and results are then presented. Provided in the final section are the research implications to Extension Service agricultural marketing programs.

The Lender and Agricultural Marketing

Lender non-price responses strongly influence a farm's risk efficient financial structure, liquidity and rate of growth (Sanint and Barry). Examples of such non-price credit responses are loan limits, security requirements, loan maturities, supervision and documentation. Lenders can affect the business risk of their agricultural borrowers through non-price responses to producer use of specific marketing alternatives.

Business risk can be defined as the risk inherent in the firm, independent of the way it is financed (Gabriel and Baker). Sources of business risk for agricultural producers include input

and output markets, biophysical environment, management decisions, and management skills.

For example, assume a lender has a policy of not providing credit to producers for the establishment of a legitimate hedging program. By foreclosing this marketing alternative, the lender may cause the producer to adopt marketing strategies which have greater income volatility. Previous research has demonstrated that hedging and forward contracting can decrease income volatility and in some cases increase profits (Baily and Richardson; Gorman, et. al.; Brandt, Johnson, and Boehlje; Flatoonzadeh, et. al.). Also, the producer may be forced to pay excessive fees to a market intermediary for the provision of forward contracting services.

Heifner has argued that hedging is in a lender's self-interest because a borrower's business risk is reduced. By reducing business risk, the lender can lend additional funds without altering the default risk level or lend the same amount but at a reduced default risk level. However, previous research has not been supportive of Heifner's argument that hedging results in increased credit availability.

Harris and Baker attempted to identify whether producers would actually receive additional credit beyond what would have been available without hedging. Their conclusion was that Illinois banks and PCAs would provide an incremental increase in lending only equal to the level required to finance the maintenance margin. This was true even though the lenders providing credit for hedging felt that hedging reduced the risk

for the lender and borrower. Also, their research found that the type and size of lender did not determine whether a lender had a positive credit response to hedging.

This paper does not attempt to identify whether hedging incrementally increased credit availability for producers. Rather the research expands upon previous efforts by identifying the attitudes and lending practices of a more institutionally diverse lending group i.e. commercial banks, PCAs and FmHA.

Methodology and Survey Results

The data for this study were provided by a mail survey of all the commercial banks, Farm Credit System offices, and Farmers Home Administration county offices in South Dakota. The survey was sent to 344 senior agricultural loan officers on November 1, 1985. An overall response rate of 54 percent was obtained. The breakdown by lender type is provided in Table 1. Commercial banks were segmented into three groups: multibank holding company affiliates, branch banks, and independent unit banks. Branch banks had the lowest response rate. This may indicate that several surveys were referred to the main headquarters by the branch offices. An extremely high response rate of 93 percent was obtained from the FmHA county offices.

Specifically, four sets of agricultural marketing questions were analyzed. The first analysis presented indicates whether lending institutions provide a line of credit for futures margin accounts and whether limitations are placed on the line of credit provided. Indicated next are the use levels of basis charts by lenders and producers. Third, lender perceptions concerning the need for training about marketing strategies are presented.

TABLE 1: LENDER RESPONSE RATE TO THE 1985 SOUTH DAKOTA AGRICULTURAL LENDER SURVEY.

LENDER TYPE	LENDER POPULATION	SURVEYS RETURNED	RESPONSE RATE (%)
1. ALL BANKS	265	126	48
MULTIBANK AFFILIATES	54	29	54
BRANCH BANKS	83	29	35
UNIT BANKS	128	68	53
2. PRODUCTION CREDIT ASSOCIATIONS	25	14	57
3. FARMERS HOME ADMINISTRATION	42	39	93
4. TOTAL SURVEY	344	186	54

*TOTAL SURVEY INCLUDES FEDERAL LAND BANK ASSOCIATION OFFICES.

Finally, the lender perceptions on producer use of specific marketing alternatives are presented.

Availability of Credit for Margin Accounts

To hedge, a producer may have to establish a line of credit with their lending institution. The purpose of such a credit line is to insure that the producer has an adequate amount of capital to meet margin calls. If a producer does not have either adequate equity or debt capital to meet the margin calls, the producer has to liquidate the futures market position earlier than planned. The producer will experience a loss in the futures transaction. If the futures and cash prices reverse their direction after the lifting of the hedge, the producer will also receive a poorer cash price when the commodity is actually sold in the cash market.

The South Dakota senior loan officers were requested to indicate whether their lending institution provided lines of credit for producer hedging activities (Table 2). Significant differences existed between the types of lenders.

The proportion of lenders providing this service varied greatly among lender types. Among commercial banks, a higher proportion of branch banks and multibank affiliates offered this service than unit banks. Forty-one percent of the unit banks did not provide credit for hedging by producers. Only seven out of thirty-nine FmHA offices indicated they provided credit for hedging. Given the centralized management structure of the FmHA, the lack of uniformity of treatment of credit for hedging was not expected. Although previous literature has implicitly assumed

TABLE 2: LENDER ATTIDTUDES ON AVAILABILITY OF CREDIT FOR HEDGING AND RESTRICTIONS ON HEDGING ACCOUNT AFTER HEDGE POSITIONS ARE ESTABLISHED IN SOUTH DAKOTA, 1985.

	LENDER PROVIDES CREDIT FOR MARGIN ACCOUNTS[A/]			RESTRICTIONS ON AMOUNT OF CREDIT PROVIDED AFTER HEDGE POSITION WAS ESTABLISHED[B/]			
LENDER TYPE	OBS.	YES	NO	OBS.	NONE	YES	SOMETIMES
1. ALL BANKS	122	69%	31%	84	48%	13%	39%
MULTIBANK AFFILIATES	29	79%	21%	23	52%	13%	35%
BRANCH BANKS	29	79%	21%	23	44%	17%	39%
UNIT BANKS	64	59%	41%	38	47%	11%	43%
2. PRODUCTION CREDIT ASSN.	14	93%	7%	13	46%	0%	54%
3. FARMERS HOME ADMINISTRATION	39	18%	82%	7	57%	0%	43%

A/ DIFFERENCES BETWEEN LENDERS WERE SIGNIFICANT AT THE .05 PROBABILITY LEVEL (RAW CHI-SQUARE VALUE = 43.45; DEGREES OF FREEDOM = 4).

B/ DIFFERENCES BETWEEN LENDERS WERE NOT SIGNIGICANT AT .05 OR .10 PROBABILITY LEVEL (RAW CHI-SQUARE VALUE 4.20; DEGREES OF FREEDOM = 8).

lenders have a willingness to assist producers in hedging their commodities, the survey results clearly indicate that a significant proportion of South Dakota's lenders are not providing credit to producers to hedge.

The premature liquidation of a hedged position can cause a profitable strategy to become an unprofitable strategy for the producer. Limitations on the amount of credit provided for a hedged position is an example of a non-price response by a lender. Such a non-price response will raise the liquidity premium the producer will place on maintaining credit reserves (Sanint and Barry).

The lenders were asked whether the credit line was limited AFTER the hedging position was taken by the producer. For those lenders indicating they provided credit for hedging, 52 percent indicated that they placed limitations or sometimes placed limitations on the amount of credit credit provided after a hedged position was established. No significant differences existed between types of lenders for this question.

The availability of credit for producer hedging would appear to be limited in some manner by the majority of South Dakota lending institutions. Producers in South Dakota do appear to be operating in a credit market, where a significant proportion of lenders either do not provide credit for hedging or place limitations on the amount of credit provided after a hedged position has been initiated. Therefore, even though the Extension Service or marketing advisory services may convince producers that hedging is a valid marketing alternative, the producers may not be able to obtain the necessary line of credit

for their lender. This is particularily true for those producers borrowing from unit banks and the FmHA.

The lack of credit lines for hedging by the FmHA is rather paradoxical, since as the "lender of last resort" their loan portfolio would be expected to contain highly leveraged producers. The foreclosure of this marketing alternative by the FmHA would appear to be inconsistent with market-oriented farm program currently being implemented. On December 31, 1984 the percentages of outstanding non-real estate debt excluding the Commodity Credit Corporation held by the commercial banks, PCAs and FmHA were respectively, 52 percent, 10.8 percent and 26.8 percent (USDA). As the second largest non-real estate lender in South Dakota, the FmHA policy impacts a significant proportion of the State's producers.

Use of Basis Charts by Lenders & Producers

Basis charts are essential for the evaluation of marketing alternatives by lenders and producers. Lenders must make price forecasts for projecting monthly and annual cash flows. Also, lenders must evaluate the feasability of marketing plans involving hedging. A knowledge of basis is required if a lender is going to adequately evaluate the cash flow projections.

If producers are going to select between the various marketing alternatives, the producer must also have knowledge of the basis for the commodity being marketed. If producers are not using basis charts, they may not be using the marketing alternatives as effectively as possible. This will become more important particularly as federal government policies become more

market oriented.

The lenders surveyed were asked to indicate whether they were purchasing or maintaining basis charts, and also to indicate what percentage of their farm borrowers were using basis charts in their marketing decisions (Table 3). Only 16 of 122 lenders purchased or maintained basis charts. Multibank affiliates and branch banks had the highest proportion having this marketing information, although significant differences between types of lenders did not exist. None of the FmHA offices had this marketing information available. Given the perception that the FmHA is suppose to provide additional management assistance to producers, this is one potential area needing improvement.

Lenders indicated that on average 10 percent or less of their producers were using basis charts (Table 3). Although the mean percentage reported by unit banks was the highest, the means were not significantly different. Even though producers may not be hedging or trading commodity options, basis charts are important to the selection of marketing alternatives and market timing.

Lender Perceptions on the Need for Training

The senior agricultural loan officers were requested to rank their loan officers' knowledge of agricultural marketing alternatives. Major differences in the knowledge levels existed between the lenders and among the marketing alternatives. Loan officers for unit banks and the FmHA indicated a stronger need for training in the marketing alternatives than other lenders (Table 4).

Respondent loan officers indicated their major training need

TABLE 3: LENDER USE OF BASIS CHARTS AND ESTIMATED PRODUCER USE OF BASIS CHARTS FOR AGRICULTURAL MARKETING DECISIONS IN SOUTH DAKOTA, 1985.

LENDER TYPE	LENDER MAINTAINS OR PURCHASES BASIS CHARTS A/			PERCENTAGE OF PRODUCERS USING BASIS CHARTS B/	
	NUMBER	YES	NO	NUMBER	AVERAGE
1. ALL BANKS	122	13%	87%	117	9.4%
MULTIBANK AFFILIATES	29	14%	86%	28	9.5%
BRANCH BANKS	29	21%	79%	27	7.6%
UNIT BANKS	64	9%	91%	62	10.0%
2. PCAs	14	14%	86%	14	7.2%
3. FmHA	39	0%	100%	39	7.2%

A/ DIFFERENCES BETWEEN LENDERS WERE SIGNIFICANT AT THE .10 PROBABILITY LEVEL (RAW CHI-SQUARE VALUE 8.89; DEGREES OF FREEDOM = 4).

B/ DIFFERENCES BETWEEN LENDERS WERE NOT SIGNIFICANT AT THE .05 OR .10 PROBABILITY LEVEL BASED ON T-TESTS BETWEEN MEANS.

TABLE 4: LENDER ATTITUDES ON LOAN OFFICER MARKETING KNOWLEDGE AND TRAINING NEEDS IN SOUTH DAKOTA, 1985.

LEVEL OF UNDERSTANDING A/	LENDER TYPE				
	MULTIBANK AFFILIATE	BRANCH BANKS	UNIT BANKS	PCAs	FmHA
FORWARD CONTRACTING					
SUPERIOR	10%	10%	14%	7%	5%
ADEQUATE	62	62	44	64	37
NEEDS TRAINING	28	28	42	29	58
HEDGING					
SUPERIOR	7%	3%	11%	0%	3%
ADEQUATE	50	52	42	64	32
NEEDS TRAINING	43	45	47	36	66
COMMODITY OPTIONS					
SUPERIOR	0%	0%	6%	0%	0%
ADEQUATE	34	21	25	36	8
NEEDS TRAINING	66	79	69	64	92

A/ THE RAW CHI-SQUARE VALUES WITH 8 DEGREES OF FREEDOM WERE FORWARD CONTACTING (11.87) OF HEDGING (10.56) AND COMMODITY OPTIONS 15.93. THE ONLY DIFFERENCES BETWEEN LENDERS FOR COMMODITY OPTIONS WERE SIGNIFICANT AT THE .05 PROBABILITY LEVEL.

was associated with commodity options. This was expected since agricultural commodity options have only been traded since October 1984. In particular, 92 percent of the FmHA respondents indicated the need for loan officer training.

Except for the PCAs, the lenders indicated a very strong need for further training concerning hedging. Over 40 percent of the responding banks indicated the need for further training, while 66 percent of the responding FmHA officers indicated the need for training.

With the introduction of minimum pricing contracts that are associated with the agricultural commodity options, the need for training about forward contracting procedures may be actually higher than indicated.

Use of Marketing Alternatives by Producers

Lenders were requested to indicate the percentage of their producers which used the futures market during the past two years. Multibank affiliates reported a significantly higher proportion of their producers were using the futures market and hedging. On average the lenders indicated that 9.3 percent of their borrowers had used the futures market during the past two years. Of this, 8.1 percent of their farm borrowers were involved in hedging activity only. Only 1.2 percent speculated in the futures markets, and that only .2 percent of the borrowers were successful futures market speculators.

Producer Use of Marketing Alternatives

The senior agricultural loan officers were requested to indicated the use of four marketing alternatives (Table 5). The

TABLE 5: LENDER PERCEPTIONS ON THE PERCENTAGE OF SOUTH DAKOTA PRODUCERS USING SPECIFIED MARKETING ALTERNATIVES DURING 1985.

MARKETING ALTERNATIVES [C]	TYPE OF PRODUCER [A]			
	FED CATTLE	FEEDER CATTLE [B]	SLAUGHTER HOGS	GRAIN
1. CASH MARKETING OR GOVERNMENT LOAN ONLY				
NUMBER OF LENDERS	151	170	154	179
MEAN PERCENTAGE	81.73	85.27#	85.69#	81.38
STANDARD DEVIATION	20.13	17.20	17.15	16.19
2. FORWARD CONTRACTING				
NUMBER OF LENDERS	151	170	154	179
MEAN PERCENTAGE	7.09#	5.04	7.17#	12.57###
STANDARD DEVIATION	8.30	6.79	9.15	12.13
3. HEDGING ON THE FUTURES MARKET				
NUMBER OF LENDERS	151	170	154	179
MEAN PERCENTAGE	8.12##	7.19##	4.84	4.04
STANDARD DEVIATION	10.69	11.25	6.92	5.18
4. COMMODITY OPTIONS				
NUMBER OF LENDERS	151	170	154	179
MEAN PERCENTAGE	1.04###	.76	.70	.92##
STANDARD DEVIATION	2.90	2.72	2.17	2.33

A/ COLUMNS DO NOT SUM TO 100% BECAUSE NOT ALL MARKETING ALTERNATIVES ARE LISTED.

B/ AN OPTIONS CONTRACT FOR FEEDER CATTLE DOES NOT EXIST, BUT PRODUCERS MAY BE USING THE FED CATTLE OPTION AS A SUBSTITUTE.

C/ THE NUMBER OF "#" INDICATES HOW MANY PRODUCERS TYPES HAD SIGNIFICANTLY LOWER PERCENTAGES AT 5 PERCENT CONFIDENCE LEVEL.

loan officers were requested to make estimates for those commodity enterprises that were predominant in their trade region. Therefore, the number of observations was not equal across the commodity complexes.

All the commodity complexes had over 80 percent of the producers using only cash marketing or government loan programs. Feeder cattle and slaughter hog producers had a significantly higher dependence on these marketing alternatives. Although agricultural economists have argued that agricultural commodity options are the private market alternative to government support loans, the current use level is a very small percentage of South Dakota producers. Forward contracting was used most heavily by grain producers, and hedging more heavily by fed cattle and feeder cattle producers.

Conclusion and Implications to Extension Service

Training agricultural producers on using marketing alternatives has been the traditional educational delivery approach of the Extension Service. The key assumption has been that agricultural lenders are knowledgable and supportive of the use of marketing alternatives such as hedging. The survey results clearly indicate that this assumption may be inappropriate in South Dakota and probably other states.

If Extension Service efforts are to be successful in increasing producer use of marketing alternatives, attention must be directed towards improving the knowledge level and marketing information system of agricultural lenders. This would help reduce unnecessary lender restrictions on producer marketing strategies.

Agricultural lender marketing seminars must concentrate on "problems" lenders have with specific marketing alternatives rather than providing only a producer perspective to marketing alternatives. Examples of such problems would be the monitoring of hedging accounts, the development of producer marketing plans, the development of price forecasts for cash flow and marketing plans, and the lender's regulatory environment. A series of lender agricultural marketing publications like those being produced by the North Central Ad Hoc Producer Marketing Committee for producers would be one method of improving lender knowledge of agricultural marketing.

Also, Extension Service educators should strongly consider developing or assisting in the development of marketing management information systems to assist lenders as well as producers. Attention must be directed towards providing up-to-date information on local basis for various commodities.

Finally, and most importantly methods must be developed by which lenders and producers can learn about marketing alternatives without subjecting themselves to the potential financial risk of making errors in actual decisions. Evaluation forms and computer models have been developed and need to be expanded. The narrow profit margins of many producer operations make learning new marketing alternatives a risky venture for the lender and borrower. Rapid adjustments in marketing strategies are required because of the changes contained in the Food Security Act of 1985. A major retraining of agricultural lenders, producers and other indviduals involved in

agribusinesses will be required.

References

Babb, E. M., B. C. French, M. C. Hallberg, M. L. Hayenga, D. I. Padberg, and L. C. Polopolus. Research and Agricultural Marketing. University of Florida, Gainesville, Florida: Institute of Food and Agricultural Sciences, 1985.

Baily, D., and J. W. Richardson. "Analysis of Selected Marketing Strategies: A Whole-Farm Simulation Approach." American Journal of Agricultural Economics. 67(1985):813-820.

Brandt, J. A. "Forecasting and Hedging: An Illustration of Risk Reduction in the Hog Industry." American Journal of Agricultural Economics. 67(1985):24-31.

Falatoonzedeh, H., J. R. Conner, and R. D. Pope. "Risk Management Strategies to Reduce Net Income Variability for Farmers." Southern Journal of Agricultural Economics. 17(1985): 117-130.

Gabriel, S. C. and C. B. Baker. "Concepts of Business and Financial Risk." American Journal of Agricultural Economics. 63(1980):560-564.

Gorman, W. D., T. R. Schuneman, L. B. Catlett, N. S. Urquhart, and G. M. Southward. "Empirical Evaluation of Selected Hedging Strategies for Cattle Feeders." Western Journal of Agricultural Economics. 3(1981):47-52.

Harris, K. S. and C. B. Baker. "Does Hedging Increase Credit for Illinois Crop Farmers?" North Central Journal of Agricultural Economics. 3(1981):47-52.

Heifner, R. C. "Optimal Hedging Levels and Hedging Effectiveness in Cattle Feeding." Agricultural Economic Research. 24 (1972):25-36.

Johnson, D., and M. D. Boehlje. "Managing Risk by Coordinating Investment, Marketing and Production Strategies." Western Journal of Agricultural Economics. 8(1983):156-169.

Kenyon, D. E. Farmers Guide to Trading Agricultural Commodity Options. Agricultural Information Bulletin No. 463. ERS, USDA, Washington, D.C.; Government Printing Office, April 1984.

Sanint, L. R., and P. J. Barry. "A Programming Analysis of Farmers' Credit Risks." Amercian Journal of Agricultural Economics. 65(1983):321-325.

Stucker, B. C. and K. J. Collins. The Food Security act of 1985: Major Provisions Affecting Commodities. Agricultural Information Bulletin No. 497, ERS, USDA, Washington, D.C.: Government Printing Office, January 1986.

United States Department of Agriculture. Economic Indicators of the Farm Sector, State Financial Summary 1984. ECIFS 4-5, ERS, USDA, Washington, D.C.: Government Printing Office, 1985.