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**SOME OBSERVATIONS ON FUTURE CHALLENGES
IN AGRICULTURAL LENDING**

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SOME OBSERVATIONS ON FUTURE CHALLENGES IN AGRICULTURAL LENDING

Michael Boehlje

With much of the financial stress of the 1980s now resolved, agricultural lenders can now turn their attention to the challenges of the future. The purpose of this discussion is to identify some of those challenges. I will first review the potential of "Farmer Mac" and then discuss new methods of delivering agricultural credits. The concepts of marketing and market segmentation as applied to agricultural lending will then be discussed. Next, I will discuss types of agricultural credits and the documentation required for each. Following this discussion, new financial instruments that might be used in agricultural lending will be reviewed. Finally, the significant impact that environmental regulations, concerns, and risks will pose for agricultural bankers will be discussed and the outline of an environmental audit will be presented. The discussion that follows will purposefully be speculative to stimulate thinking about researchable issues and educational programming opportunities.

The Potential of "Farmer Mac"

The Agricultural Credit Act of 1987 authorized the formation of a secondary market for farm real estate loans. The concept of the secondary market is to provide the opportunity for lenders to create marketable securities based on agricultural loans and to buy and sell these securities in a liquid market. This procedure increases the liquidity of long-term real estate loans, allowing lenders with shorter term funds (deposits or bonds) to make long-term real estate loans without encountering the rate risk of funding long-term assets with short-term liabilities. Thus, a broader set of lenders can safely participate in the farm real estate market and more funds should be available for such loans.

But will "Farmer Mac" work? Although the original \$20 million of FAMC (Federal Agricultural Mortgage Corporation) stock has been sold, lenders have not moved aggressively to use the program. This hesitation may have occurred for a number of reasons. First, the agricultural real estate loan market has been a declining or slow growth market in recent years, and Farm Credit System as well as commercial banks have had fully adequate funds from traditional sources to satisfy loan demand. Furthermore, securitization of farm mortgage loans through Farmer Mac requires standardization of the credit documentation process. Although significant progress has been made in developing standard evaluation and measurement criteria for agricultural credits, it will take some time for lenders to fully implement these standard criteria.

The cost of origination and delivery is a critical concern in agricultural lending. Although costs will decline with more experience and volume, early estimates of the cost of credit administration using the Farmer Mac program have been approximately 150 basis points. Costs at this level would appear to be higher than those incurred in traditional farm real estate lending.

Utilization of the program by the Farm Credit Banks will be crucial since they have been a major source of farm mortgage loans in the past. But there are a number of good reasons why the banks of the Farm Credit System may be hesitant to use Farmer Mac. First, is cost--the agency status of Farm Credit System bonds

makes them a very competitive and frequently lower cost source of funds than securitized debt through Farmer Mac. Second, borrowers from the Farm Credit System must give up their borrower rights protection provided by the Agricultural Credit Act of 1987 before their loans can be pooled for securitization using Farmer Mac. It is not clear that Farm Credit System borrowers will waive these rights, and even if they do, they will likely expect some compensation which will further increase the cost of Farmer Mac compared to traditional funding sources. Third, with the documentation standards required for Farmer Mac, it is quite possible that only the higher quality credits will qualify for securitization, leaving a lower quality, higher risk portfolio for the banks. It is doubtful that any lender would be willing to segment its loan portfolio in this fashion and retain the higher risk credits. Thus, although the Farmer Mac program may have some appeal for unique credits such as rural housing loans, it is not clear that it will be heavily used for the mainstream activity of farm mortgage lending by the Farm Credit System. And, since costs and rate premiums are heavily influenced by volume in the secondary market, the level of participation by the Farm Credit Banks will be a major determinant of the viability of Farmer Mac.

Delivery Alternatives

Changes and innovations in the origination, delivery, and collection of agricultural credits may be necessary for traditional lenders to remain competitive in the future. The cost of origination and servicing for agricultural loans using the traditional "bricks and mortar" strategy of commercial banks and Farm Credit System lending institutions is estimated at 200-250 basis points. A significant portion of these costs (personnel, legal documentation, etc.) are invariant with loan size. Consequently, costs at these levels make it difficult to generate profits with smaller credits in the \$30,000-\$50,000 range.

A number of alternative origination and servicing alternatives are being tested in the agricultural credit market. One such option is the use of a portable credit card. Although the credit card arrangement may appear to be most appropriate for smaller volume purchases of supplies and parts, higher limits allow it to be used for major purchases of feed, fertilizer, chemicals, etc. Some input supply firms are using point of sale (POS) financing arrangements (e.g., Farmland Financial, Pioneer) for full season financing of farmer purchases in contrast to traditional 30 or 60-day dealer credit. The efficiencies of origination costs subsidized by the product marketing activity, combined with specialized collection activity, result in POS delivery costs that are lower than those of traditional lenders by 50 percent or more. This relative efficiency in credit extension, combined with the product marketing advantages of offering credit services, are major explanations for the substantial interest by input suppliers in expanding their role in the agricultural credit market.

Although it may be difficult for traditional lenders to compete directly with the credit card and POS financing strategies of input suppliers, some options are available. One alternative is to joint venture with a major input supplier by placing bank or PCA lending personnel in the offices of the local dealer so that the farmer receives the benefits of "one-stop" buying of inputs. A second alternative is to buy receivables from local input supply firms that extend operating credit to farmers and do so according to the standards and criteria set

by the bank or PCA. A variation of this second approach is to provide a "floor-planning" like financing package to the local input supplier that includes the traditional inventory and working capital financing and the funding of farmer purchases by purchasing qualified receivables. Such arrangements take advantage of the efficiencies of POS origination and delivery while enabling the traditional local lender to be an active participant in the market. Such joint arrangements would best include joint obligation for losses to reduce the incentive for extension of higher risk credits.

Other delivery options that are being considered by traditional agricultural lenders include regional loan production offices and direct lending using a "computers and cars" strategy. In today's environment of portable computer technology and the desire for personalized service (high touch - high tech), the expectation that the borrower travel to the lender's relatively sterile and impersonal facility may be unrealistic. Instead, "going to the customer" with networking portable computers enables the lender to transact business in the borrower's place of business (or home) where he/she is more at ease, to access analytical software or data available only at the central offices, and to simultaneously complete an on-site inspection and evaluate the customer's operation.

Finally, the role of computerized credit evaluation and scoring techniques and targeted collateral controlled lending under specified conditions should be evaluated as ways of reducing delivery costs while controlling risks. Likewise, use of specialized collection services, including combining telephone contacts with trained collection field staff for direct contact should be considered. The fundamental objective of these strategies is to provide cost effective delivery of credit services while simultaneously controlling credit risks. Cost effective, risk controlled credit extension will be essential to maintain competitive interest rates to borrowers, and increased competition in a slow growth market will dictate that lenders be more rate and service competitive than they may have been in the past.

Marketing and Market Segmentation

Marketing strategies and market segmentation are critical for the agricultural lender of the future to be successful. As has been noted earlier, new players are positioning their products and services to particular segments of the agricultural credit market. To be competitive with these new players, the current agricultural lending institution must recognize the increased competitiveness of the market and their unique capacity to respond to customers' perceived needs.

A first step in this response is to recognize that farmers are more price sensitive today than in the past. Although customer loyalty has not disappeared in credit markets, farmers will switch lenders more quickly than in the past if they are not receiving a competitively-priced product or service. Farmers are much more cost conscious than they have been in the past, and they are shopping for alternatives more frequently and aggressively. So competitive pricing is an essential component of the marketing strategy.

A second component is to recognize the different segments in the agricultural credit market and the products and services that these segments will likely demand. One dimension of market segmentation is size--the average size farm is disappearing from the scene; in reality we are developing a distribution of farmers that includes a limited number of large full-time commercial farms with sales of \$250,000 or greater and a much larger number of smaller part-time farms where off-farm income is a significant, if not the major, source of cash flow and debt-servicing capacity. Commercial size farmers need different products and services than the part-time farmer; these products and services may be provided with different distribution strategies than those for part-time or even "average" farmers.

For example, the full-time commercial farmer may want one-stop financial services, including short, intermediate, and long-term financing with the opportunity to use leasing products as well as access to insurance, financial counseling, and market advisory services. Part-time farmers may only need operating credit and be unwilling to pay for counseling, marketing, and other services. And, cost of traditional credit services will be different for the large, commercial farmer compared to the smaller, part-time farmer; thus suggesting differential prices or interest rates for different farmers.

Another dimension of market segmentation would be by enterprise type. Again, dairy farmers may have different credit needs--a larger proportion of intermediate and long-term credit--compared to crop farmers or hog producers who need larger operating lines of credit. Other criteria for segmentation might be age (beginning farmers probably need different products and services than well established farmers) and risk characteristics.

Once various market segments have been recognized, the next task is to develop a market development plan. This process involves five major steps. The first step is to identify the number of potential borrowers by market segment. Data for this analysis might come from census information for the lender's market area. The second step is to identify the potential financial products (loans, insurance, deposit services, financial counseling, trust services, etc.) that would logically be demanded by each market segment. Next, the cost and profit potential of providing various financial products to each segment should be estimated so that a logical choice can be made as to what products should be targeted to particular kinds of customers. The fourth step is to develop a marketing strategy (personal visits, telephone contacts, personalized mailings, mass mailings, radio or newsprint advertising, etc.) to promote the various products to specific customers. The final step is to develop a specific prospect list that will be the focus of aggressive and personalized attempts to "close a sale."

A marketing strategy should include a new business development program, customer prospecting strategies, on-farm visits with potential customers, focused advertising, promotion, and direct mail solicitation, etc. The passive, "over the transom" marketing strategy of the 1970s where lenders chose their customer base from those who walked through the door works well in a time of strong demand, but a more aggressive marketing strategy is necessary in today's time of weaker demand, lower volume, and increased competition.

Types of Loans

Many agricultural loan officers have painful experiences with the collateral-based lending of the 1970s and early-1980s. The focus of agricultural lending today is cash flow lending. But do all farm loans need a cash flow? And in reality is there a unique set of criteria that should be used for evaluating all agricultural loans?

Figure 1 summarizes the major types of loans made to producers. In essence, there are two categories of loans made to farmers (depending upon their size and type of operation)--commercial loans and consumer loans. For moderate-size and larger full-time farmers, the primary source of income to repay operating or capital expenditure loans is the farming operation. In most important dimensions, such a loan is no different than that made to any commercial business venture and, thus, commercial lending practices adapted to the agricultural industry are appropriate for the evaluation of credit worthiness. For part-time farmers, where the primary source of income and repayment is off-farm employment, the principles and concepts of consumer lending, including detailed analysis of the level and stability of the off-farm job is critical. In essence, consumer lending practices are more appropriate for this borrower than commercial lending practices.

A second dimension of the type of loan is the detail in documentation required. Three different levels of documentation are identified in Figure 1. The first level defines the signature loan, where the already documented financial strength of the borrower is so strong that further analysis seems unnecessary beyond that of a signature on the note. This type of loan is particularly appropriate for individuals with documented large net worth and/or annual incomes borrowing small sums of money, or those who, for example, may have sizeable CDs or other investments in the financial institution and want to borrow only a modest sum.

The second level is the collateral loan. Collateral-based lending has fallen in disfavor in agriculture in recent years, but under the right circumstances, collateral lending may still be very appropriate. The key determinants of whether collateral lending will result in low levels of risk are: (1) is the collateral relatively liquid and easily marketable?, (2) does the lender have a first security position in the collateral?, and (3) is the cash flow generated by the collateralized asset or enterprise relatively certain. If the answer to these three questions is yes, then a collateral loan will typically be a very low risk loan. Examples of low risk collateral loans would include operating loans for seed, fertilizer, and chemicals where the lender has a first position in the crop and the farmer is in the government price and income support program and purchases crop insurance. Another example would be a loan for feed or livestock where the lender has a first position and the feeder has protected his margin using futures or options markets. One of the key advantages of the collateral loan is that much of detailed financial analysis is not needed and, therefore, the loan review process can be substantially shortened, increasing the cost effectiveness of the lending activity.

The third type of loan, a performance loan, requires full financial analysis of the efficiency, business performance, liquidity, solvency, and profitability

dimensions of the business. This type of loan will require complete financial statements, current and historical income statements, and documented cash flow analysis. The payoff to time committed in detailed analysis of this loan category can be substantial since the risk of nonrecovery on performance loans is typically much higher than that on signature or collateral loans.

By dividing the loan portfolio into the three categories of signature, collateral, and performance loans, the loan officer can more effectively allocate time and expense in loan documentation and simultaneously reduce the risk of making inappropriate credit decisions.

New Financial Instruments¹

Historically, fixed-rate loans have been the standard financing arrangement in agriculture. In recent years, a number of credit innovations have been proposed as alternatives to conventional fixed-rate, constant payment loans. There are four primary reasons for considering these alternatives: (1) fluctuating interest rates, (2) fluctuating repayment ability of borrowers, (3) tax implications for lenders and borrowers, and (4) discrepancies between finance charges and initial cash flow generated by debt-financed assets.

Several alternatives have been identified or are in use in real estate lending including flexible repayment mortgages, graduated payment mortgages, variable interest rate mortgages, and reverse mortgages.

Flexible repayment mortgages allow borrowers to increase or reduce the amount of loan payments, within certain limits, in response to fluctuating repayment ability. Graduated payment mortgages (GPMs) provide for loan payments to be structured in a manner that allows initial payments to be less than under straight amortization. GPMs require payment size to gradually increase over the life of the loan. This type of arrangement is seen as particularly beneficial to young and beginning farmers who are carrying heavy debt loads.

Variable-rate mortgages (VRMs) allow interest rates on loans to fluctuate with current market rates. Interest rates on these loans can change frequently (e.g., quarterly or monthly) and are often contractually tied to an index. This type of arrangement allows the lender to pass interest rate risk through to the borrower while enabling the borrower to avoid locking in an extremely high interest rate. Adjustable-rate mortgages (ARMs) are similar to VRMs, however, they differ in how frequently the rate can be adjusted. ARMs change at predetermined intervals and are usually tied to an index (e.g., U.S. Treasury securities). Typically, both ARMs and VRMs have interest rate caps limiting the increase in the interest rate for each repricing period and over the life of the loan. Variable-rate loans made up 17 percent of all commercial bank non-real estate agricultural loans in 1977, but rose to 61 percent by 1988. The largest

¹ This section is taken from "Adjustable-Term Financing of Farm Loans" an unpublished manuscript written by Glenn Pederson, Michael Duffy, and Michael Boehlje, Department of Agricultural and Applied Economics, University of Minnesota, St. Paul, 1989.

	Commercial	Consumer
Signature	Note	XXXX
Collateral	Note Lein (priority) Financing Statement Evidence of Marketable Collateral (liquid assets, insurance, government program, contract or hedge, etc.)	Note Lein (priority) Financing Statement Evidence of Marketable Collateral (liquid assets, insurance government program contract or hedge, etc.)
Performance	Note Balance Sheet Income Statement Cash Flow Tax Return Lein and Financing Statement Assignment of Equity	Note Balance Sheet Income Statement Cash Flow Tax Return Employment History Off-farm Income Lein and Financing Statement Assignment of Equity

Figure 1. Types of Agricultural Loans and Documentation Required

proportion of these loans were for feeder livestock and operating expenses. Variable-rate loans have been used primarily by larger banks, but have been increasingly used at smaller banks as well.

Variable-rate loans theoretically shift interest rate risk from the lender to the borrower. The expanded use of variable-rate loans also contributes to an acceleration of the pace at which new higher rates are applied to existing loans. If the lender absorbs the rate risk, it may directly decrease the spread between the cost of funds and the rate of interest earned on assets. If rate risk is passed through to the borrower, it theoretically increases the variability of cash flow and reduces the debt-carrying capacity of the borrower's operation. The pass-through of interest rate risk to farm borrowers has potentially adverse indirect effects on lenders through higher credit risk and a lower expected rate of return on farm loans. LaDue and Zook estimated this risk of loan default was 8 percent higher with variable-rate loans than with comparable fixed-rate loans among a sample of dairy farms during 1978-81.²

More recently, adjustable-term financing has been suggested to allow the lender to pass interest rate changes through to borrowers without increasing the risk

² E. L. LaDue and G. A. Zook, "Effect of Variable Interest Rates on the Financial Performance of Dairy Farm Businesses," Agricultural Economics Staff Paper No. 84-11, Cornell University, June 1984.

of default. This could be accomplished by increasing the term of the loan (rather than the interest payment) when interest rates increase. Farm lenders have provided loan extensions in the past when a borrower was unable to make the scheduled payment. However, the use of a loan extension to compensate for market rate risk has not necessarily been anticipated in the lending arrangement. An adjustable-term loan makes provision for the contingency of debt-servicing problems if interest rates increase, and provides an alternative means of managing repayment risk.

Table 1 demonstrates the term adjustment that would occur with interest rate changes, while holding the annual payment constant. If the initial interest rate is 10 percent and the initial term of loan is 10 years, the annual payment is \$1,627. An increase in the interest rate to 12 percent, holding the annual payment at \$1,627.50, requires the term of the loan to increase to 11.8 years. If the initial term of the loan was 20 years, an increase in the interest rate from 10 to 12 percent could not be absorbed by a term adjustment alone. This is because the fixed annual payment is smaller than the interest payment required at a 12 percent rate (implying negative amortization). To accommodate this problem, a maximum term adjustment can be specified with the adjustment occurring in the annual payment once the maximum term has been reached.

Table 2 contains an illustrative repayment schedule for an adjustable-term loan with a 20-year initial term and a 10-year maximum term adjustment (Panel A). Interest rates in Table 2 reflect the average rate for the Federal Land Bank for the years 1978-1987. An annual payment of \$21,520 is required to amortize the 20-year loan with a first period interest rate of 8.75 percent and a beginning balance of \$200,000. In the second period, the interest rate increases to 9.52 percent and the term is adjusted. The number of years remaining in the loan period is 22.2 years. This is 3.2 years more than would be the case under straight amortization, but well below the maximum of 29 years. Because the maximum term adjustment has not been reached, the annual payment remains at \$21,520. In the third period, the interest rate increases to 10.67 percent and the term of the loan increases to more than the maximum 28 years. At this point, the term is set to the maximum (28 years) and reamortized at 10.67 percent. The new annual payment is \$21,885, which is lower than the \$24,417 payment with an adjustable-rate loan (Panel B). Throughout the remainder of the 10-year period, the interest rate remains high enough to require the loan to be amortized at the maximum term allowed. The annual payment in years 3-9 ranges from \$365 (year 3) to \$4,338 (year 5) higher than the payment established at the initial interest rate, but substantially lower than the corresponding annual payments using an adjustable-rate loan.

Further comparison between loan repayment schedules illustrates that the interest payment for the adjustable-term loan is equal to that of the adjustable-rate loan in the first two periods and greater in each of the next eight years. This is due to the lower annual principal payment made after year one. The adjustable-term loan maintains a higher principal balance. The cumulative effects of lower principal payments under the adjustable-term loan are seen by comparing the beginning loan balances in the tenth year of the repayment schedule. The remaining balance with the adjustable-rate loan is \$157,291, while \$182,932 remains to be paid using the adjustable-term loan.

Another financial instrument or product is the reverse annuity mortgage which is most commonly used in the housing market to structure home equity loans or to facilitate retirement planning. A reverse annuity mortgage where the owner of farm real estate that is unencumbered uses that real estate as security to borrow funds for retirement living or other purposes with the mortgage eventually being repaid upon sale of the asset or by the heirs may be a very useful way to convert liquid wealth in the form of farmland to a more liquid form that can be used for improving the standard of living during the retirement years. Again, this product may be of interest to a unique segment or niche in the agricultural credit market.

Table 1. Relationship Between Loan Term and Interest Rate (\$10,000 Principal, 10% Original Interest Rate, Fixed Annual Payment)

Annual Payment ^{a/}	Annual Interest Rate (%)				
	8	9	10	11	12
	----- loan term (in years) -----				
\$2638	4.70	4.84	5.00	5.17	5.35
2296	5.57	5.77	6.00	6.25	6.52
2054	6.41	6.69	7.00	7.35	7.74
1874	7.23	7.59	8.00	8.47	9.02
1736	8.02	8.48	9.00	9.62	10.37
1627	8.79	9.34	10.00	10.80	11.80
1539	9.53	10.19	11.00	12.01	13.34
1467	10.23	11.02	12.00	13.26	15.02
1407	10.91	11.83	13.00	14.57	16.88
1357	11.56	12.62	14.00	15.93	19.01
1314	12.18	13.39	15.00	17.36	21.52
1174	14.85	16.86	20.00	26.41	b/
1101	16.83	19.70	25.00	62.14	b/
1060	18.23	21.89	30.00	b/	b/

a/ The fixed annual payment is calculated using the term specified in the 10 percent interest rate column.

b/ Interest payment is greater than fixed annual payment.

Table 2. Alternative Repayment Schedules for a \$200,000 Real Estate Loan

<u>Year</u>	<u>Interest</u> <u>Rate(%)</u>	<u>Years</u> <u>Remaining</u>	<u>Beginning</u> <u>Balance</u>	<u>Annual</u> <u>Payment</u>	<u>Annual</u> <u>Principal</u>	<u>Annual</u> <u>Interest</u>
----- (\$) -----						

Panel A: Adjustable Term Loan, 20-Year Initial Term, 10-Year Maximum Adjustment

1	8.75	20	\$200,000	\$21,520	\$4020	\$17,500
2	9.52	22.2	195,979	21,520	2863	18,657
3	10.67	28	193,116	21,885	1280	20,605
4	11.58	27	191,836	23,430	1216	22,214
5	13.00	26	190,620	25,858	1077	24,780
6	12.00	25	189,542	24,166	1421	22,745
7	12.13	24	188,120	24,381	1562	22,819
8	12.94	23	186,558	25,705	1565	24,140
9	11.77	22	184,993	23,834	2060	21,773
10	10.25	21	182,932	21,523	2773	18,750

Panel B: Adjustable Rate Loan, 20-Year Term

1	8.75	20	\$200,000	\$21,520	\$4020	\$17,500
2	9.52	19	195,979	22,688	4031	18,657
3	10.67	18	191,948	24,417	3937	20,480
4	11.58	17	188,011	25,772	4001	21,771
5	13.00	16	184,010	27,863	3942	23,921
6	12.00	15	180,067	26,438	4830	21,608
7	12.13	14	175,237	26,614	5358	21,256
8	12.94	13	169,879	27,670	5688	21,982
9	11.77	12	164,190	26,224	6899	19,325
10	10.25	11	157,291	24,496	8374	16,122

Other financial instruments may have potential for some farm borrowers. Contract production may not be viewed by many as a financial instrument, but it may be an essential component of the total financial and business arrangement needed to successfully obtain credit. The use of production contracts in the poultry as well as the hog industry to guarantee the cash flow for debt servicing may be a necessary requirement to obtain funds for facility construction. And, in fact, some resource-providing production contracts are not all that different than leasing arrangements in terms of the cash flow and financing implications for the farm business.

Finally, although it is not a unique product or instrument, the flexibility of converting from one financial instrument or set of repayment and interest rate terms to another merits assessment. Historically, financial instruments in the agricultural credit markets have been relatively rigid, and new terms and arrangements could be obtained only by terminating the previous arrangement, paying any appropriate penalties and negotiating a new one. The opportunity to convert from one instrument or set of terms to another at a set price provides more flexibility in adjusting the financing arrangement to changing circumstances over time, and can probably do so with fewer costs to both borrower and lender.

Impact of Environmental Issues

The impact of agriculture on the environment has become a major issue in the agricultural community. Farmers and agribusiness owners and managers have recognized that production and cultural practices do impact the environment and are attempting to adopt practices that minimize environmental degradation. The farm lending community has been indirectly impacted, but as of yet has not become fully aware of the direct impact of environmental concerns on their lending practices and financial performance.

Loan Purpose and Volume

The most obvious impact of agriculturally-driven environmental concerns on farm lenders is on loan purpose and volume. If environmental regulations combined with a move to low input sustainable agriculture (LISA) result in reduced demand for purchased inputs such as fertilizer and chemicals, operating loan volume will decline. In contrast, more funds will likely be necessary to comply with environmental regulations and/or reduce the potential of agricultural pollution. Examples include the expenditures to store and dispose of animal wastes, to clean up and maintain acceptable pesticide container disposal sites, to clean up unexpected chemical spills from storage and transportation facilities, to replace and correct environmental damage from underground storage tanks, and to clean up or replace contaminated wells. Even if these expenditures are not funded from loan funds, the fact that they do occur will reduce the cash flow available for servicing operating or real estate loans. And the use of borrowed funds for such expenditures presents potentially serious repayment problems because most such expenditures do not generate additional volume or revenue, nor are the funds expended for assets or investments that provide marketable collateral for the loan. In summary, environmental concerns can have a very direct impact on the loan purpose and volume of agricultural lenders.

Appraisal and Valuation

A second impact of agricultural environmental concerns on lenders relates to the appraisal and valuation of farm assets. If a lender is advancing funds for the purchase of land or livestock facilities or taking such assets as security in a loan agreement, an environmental audit should accompany the financial appraisal of the assets. An environmental audit should answer the following questions.³

- (1) If there is an active well on the property, where is it located with respect to fuel tanks, livestock facilities, etc., and has it been tested for water quality?
- (2) Are there any abandoned wells on the property? If so, have they been used as a waste disposal site or have they been capped?
- (3) If the property includes livestock facilities, what has been and is the animal waste disposal method used; how close are the facilities to streams or waterways, towns, and other personal residences; and have proper state and federal permits for construction and waste disposal been obtained?
- (4) Has there been any potentially hazardous construction material such as asbestos, foam insulation, or lead based paint used in the construction of any of the buildings or facilities on the property?
- (5) Are there any disposal sites for empty chemical containers on the property, and, if so, where are they located with respect to wells and waterways; what chemicals are included in the site; and what are the soil characteristics underlying the disposal site?
- (6) Are there any known or suspected spills or other dumping of chemicals, petroleum products, or hazardous or toxic materials on the property and, if so, what clean-up or containment and disposal methods were used?
- (7) Are there storage facilities for chemicals such as fertilizer and pesticides on the property and, if so, what is the condition of these facilities, location with respect to water supplies and protection and containment structures in case of leakage or accidental spills?
- (8) What facilities are used to store fuel or petroleum products; what is the location of these facilities vis-a-vis water supplies; and what protections are used to contain and prevent damage from leaks and accidental spills?
- (9) Are there or have there been any underground storage tanks for fuel or other chemicals on the property; if so, have they been removed or inspected; are there or have there been any known or suspected leaks and what clean-up procedures were used?

³ Jane T. Arthur, "The Effect of Environmental Contamination on Farmland Investments," in Illinois Banker, August 1989, pp. 10-13.

- (10) Has part of the property ever been used as a site for production, formulation, distribution or storage of agricultural chemicals such as herbicides, fertilizer, pesticides or petroleum; if so, how were the facilities removed and the site cleaned up and were there any known or suspected spills or other contamination from this site?
- (11) Has industrial waste or municipal sludge ever been used as fertilizer on the farm, or has any part of the property ever been used as a waste disposal site, municipal dump, or landfill; if so, what disposal techniques and procedures were used, where proper permits obtained, and what is the location of these sites with respect to ground and surface water sources?
- (12) Is the property in compliance with all federal and state rules and regulations with respect to soil erosion and runoff, conservation practices, and CRP land management practices, tiling and conversion of wetlands, etc., and, if not, what procedures are necessary to obtain compliance and what will be the cost?

Although many of these questions can be answered by the property owner, the technical and economic implications of potential environmental problems will frequently require more expertise such as that provided by engineers and economists. An environmental audit can be costly and time-consuming, but the cost and risk of not doing one can be very high--just ask the owner (or lender upon foreclosure) who has had to incur thousands of dollars of expense to clean up property containing a chemical spill or a leaking underground storage tank prior to abandonment of the property!

Liability

A third dimension of agricultural environmental issues that is of particular concern to lenders is the issue of the contingent liability for environmental damages and clean-up costs. This contingent liability can become a reality in a number of ways. First, as noted earlier, if a lender receives property under foreclosure or repossession procedures that requires clean-up, the lender will typically be required to incur the clean-up costs. Furthermore, if the property is inflicting environmental damage on others, the lender would be subject to litigation and potential damages by the injured party. And these liabilities would be incurred in addition to the likelihood of a loss in value of the property due to the environmental problem.

Secondly, there may be a wider liability concern. In 1989, Congress passed the U.S. Comprehensive Environmental Response, Compensation and Liability Act, commonly referred to as the "Superfund Law." This legislation identifies those responsible for clean-up and containment costs on contaminated property as any and all of the "potentially responsible parties." Although the applicability of this legislation to agriculture is unclear and case law is still developing in this area, "potentially responsible parties" has been interpreted in some commercial property cases to include lenders as well as present and past owners and operators. Even if lender liability isn't established, the popular perception that the lender has "deep pockets" will likely result in the lending institution being a party to any litigation and having to incur at least legal

expenses in its defense. Furthermore, state legislatures are also concerned about establishing regulations on and incentives to prevent environmental damage and to impose financial responsibility for cleanup activities. Thus, the major financial impact of agricultural environmental problems on lenders may be the liability for cleanup or environmental damages on secured property.

Conclusion

I have attempted to identify a number of developments, changes, and challenges in the financial markets for farm firms. The implications of these developments for costs and efficiency of credit delivery, long-term viability and market share of various lending institutions, interest rates paid and credit availability for borrowers with various characteristics, and new means of supplying agriculture's credit needs are unclear. Hopefully, the observation presented here will stimulate research and educational programs on these and related topics.