Have Regulatory Differences Between Banks and PCA's Affected Bank Performance?

By Kerry Webb

As non-real estate farm debt has grown rapidly during the last decade, farmers have increasingly turned to institutional lenders for additional funds. There are numerous lenders from which farmers can borrow, but commercial banks and Production Credit Associations (PCA's) account for approximately 70 per cent of the outstanding non-real estate farm loans. In spite of the fact that banks and PCA's both lend to farmers for the same purposes, the two institutions operate under considerably different legal and regulatory frameworks.

Many observers feel that PCA's possess competitive advantages in competing with banks for agricultural loans and that these advantages have resulted in PCA's being able to maintain or increase their market share at banks' expense. Moreover, many rural bankers view these competitive differences as potentially leading to declines in bank performance and profitability. This article compares the major institutional and regulatory differences under which banks and PCA's operate and examines the effects these differences may have on bank profitability and market share.

Kerry Webb is an assistant economist with the Federal Reserve Bank of Kansas City.

CHARACTERISTICS OF NON-REAL ESTATE FARM LOANS

Since 1976, outstanding non-real estate farm debt has nearly doubled, rising from $39.4 billion to $70.7 billion in 1980, and now accounts for 45 per cent of total farm debt. This increase has been primarily due to inflation of prices paid by farmers for production items, to the movement toward larger and more specialized farming operations, and to variable and often lagging increases in the prices of farm products. As a result, farmers have increasingly turned to institutional lending to finance their production requirements.

The primary use of non-real estate farm loans has been to finance those inputs which are used up in one production season. Quarterly survey data collected by the Federal Reserve System since 1977 indicate that livestock loans average about 37 per cent of the total non-real estate farm loans made by banks, while loans

Table 1
OUTSTANDING NON-REAL ESTATE FARM DEBT ON JANUARY 1
PER CENT OF TOTAL HELD BY VARIOUS LENDERS
(EXCLUDES CCC LOANS)

	Total (Millions of Dollars)	Commercial Banks	PCAs	Farmers Home Administration	Individual and Others
1976	39,405	51.2	27.3	4.5	17.0
1977	45,061	51.7	27.1	4.2	17.0
1978	51,142	50.3	26.4	6.1	17.1
1979	59,998	47.4	25.2	9.0	18.4
1980	70,700	43.9	25.8	12.7	17.5

SOURCE: Economic Indicators of the Farm Sector: Income and Balance Sheet Statistics, 1979, USDA, December 1980, p. 50.

for meeting other current operating expenses average about 36 per cent.[1] Machinery loans average about 9 per cent of the total. The surveys also indicate that the weighted average maturity on these loans has declined from about nine months in 1977 to about seven months in 1980.

Market shares of non-real estate farm loans have also changed somewhat during the last five years. As shown in Table 1, the market share of commercial banks has declined from about 51 per cent in 1976 to 44 per cent in 1980, while the share for PCA's has stayed about 25 per cent during the period. Moreover, Farmers' Home Administration loans accounted for 5 per cent of the market in 1976, but total about 13 per cent presently. Loans made by individuals and others account for 17-18 per cent of the market.

REGULATORY AND INSTITUTIONAL FRAMEWORK

Commercial banks operate under a complex set of state and Federal regulations which affect their lending and pricing. Regulations are imposed for at least four major reasons: to help ensure appropriate monetary policy, to maintain a financially sound banking environment, to provide an efficient intermediation process, and to ensure adequate levels of community banking services.[2] At times, bankers have been constrained on the terms of loans they could offer by usury laws, by structure restrictions, and by other regulatory and institutional factors which have little or no effect on some nonbank lenders.

One of the most pronounced examples of differing institutional arrangements and regulatory limitations is the framework under which banks conduct agricultural lending as compared to the framework under which PCA's operate. Some of the main differences are discussed below.[3]

[1] "Survey of Terms of Bank Lending," Federal Reserve Statistical Release E.2, published quarterly.

[2] Arnold A. Heggestad, "Market Structure, Competition, and Performance in Financial Industries: Survey of Banking Studies," in *Issues in Financial Regulations,* edited by Franklin R. Edwards, McGraw Hill Book Co., New York, 1979, p. 452.

[3] For discussion of additional regulatory differences, see Peter J. Barry, "Prospective Trends in Farm Credit and Fund Availability," *Future Sources of Loanable Funds for*

Fund Acquisition and Lending Limitations

Commercial banks and PCA's acquire loanable funds differently. For the majority of small rural banks, where about 70 per cent of bank agricultural production loans are made, loanable funds are primarily derived from agricultural-related savings and demand deposit flows. Yet, at those times when deposit flows are substantially lower than normal—e.g., when farm prices are depressed—the greatest loan needs and fund shortages often arise. Rural banks may then attempt to obtain additional funds through more costly time deposits and borrowed liabilities or arrange selling and participation agreements with other commercial banks and lenders. On the whole, however, rural banks have not raised large amounts of funds in these ways, and so their lending capability has remained closely tied to their own resources.

The situation faced by PCA's, however, is entirely different. Farm Credit System funds are obtained through the sale of bonds and notes in national money markets.[4] These funds are then channeled through the Federal Intermediate Credit Banks to the PCA's. Thus, PCA's raise money through sources that are not dependent upon the local agricultural economy. In addition, a PCA can participate with other PCA's or its respective Federal Intermediate Credit Bank in financing farm loans. As a result, PCA's have a more reliable and often lower cost source of funds than many agricultural banks.

Lending limits at commercial banks are also structured differently than those at PCA's. State and Federal regulations restrict the size of bank loans to individual customers to 10-25 per cent of a bank's unimpaired capital stock and surplus, depending on whether the loans are secured by livestock or warehouse receipts to readily marketable nonperishable crops. Nevertheless, an increasing proportion of rural banks must either turn to correspondents for loan participations or refuse loan requests. To establish a correspondent relationship, a rural bank is often required to maintain a compensating balance at the correspondent bank equal to 10-20 per cent of the correspondent's loan share. This practice can have the effect of draining funds from rural areas when they are most needed. In addition, when tight credit conditions affect correspondents, they may be uninterested in, or unable to meet, the respondent bank requests for loan participations.

Lending limits at PCA's are generally less restrictive than for commercial banks. Their limits are set at 50 per cent of capital and surplus, and if an approved loss-sharing agreement is in force, the limit can be increased to 100 per cent. Thus, PCA's have more flexibility in servicing the needs of large borrowers.

Reserve Requirements

The main purpose of reserve requirements is to facilitate monetary policy, and with passage of the Depository Institutions Deregulation and Monetary Control Act of 1980 (MCA), uniform reserve requirements have been imposed on all depository institutions having transaction accounts or nonpersonal time deposits. These institutions include commercial banks, savings banks, savings and loan associations, credit unions, and industrial banks. When the phase-in period is completed, all depository institutions will be required to maintain a 3 per cent reserve against the first $25 million of transaction accounts, and a 12

Agricultural Banks, forthcoming proceedings of a symposium sponsored by the Federal Reserve Bank of Kansas City.

4 Kerry Webb, "The Farm Credit System," *Economic Review,* Federal Reserve Bank of Kansas City, June 1980.

per cent reserve on total transaction accounts above $25 million. In addition, all depository institutions will be required to maintain reserve against nonpersonal time deposits (including savings deposits) with maturities of less than 4 years at a ratio of 3 per cent. It should be noted, however, that MCA eliminated reserves held against personal time deposits, and that these deposits constitute a large and growing share of deposits at rural banks. All reserves must be held in either noninterest bearing accounts at a Federal Reserve Bank or as vault cash. However, to individual banks and other depository institutions, reserve requirements represent a reduction in investable funds.

As part of the Farm Credit System, PCA's are not depository institutions and are not subject to the 1980 Act. PCA's are not required to maintain reserves and do not incur the costs associated with this type of non-income-producing account.

Usury Limits

In the past, many states have adopted usury limits which allow interest rates to rise no further than some predetermined level. Passage of MCA, however, preempted state usury ceilings on business and agricultural loans in excess of $25,000 and permits an interest rate of up to 5 per cent above the Federal Reserve discount rate. This provision expires on April 1, 1983, or at an earlier date if a state adopts a law reinstituting its own ceiling.

When market rates rise to the usury ceilings, commercial banks tend to shift their portfolios to those investments with returns that maintain desired profit margins. During periods of rising interest rates, farmers have often found loans more difficult to obtain as some banks moved out of the farm lending market and into more profitable investments. Consequently, usury laws have tended to impede farm lending during periods of high interest rates.

Although never specifically stated in the law, Farm Credit Banks and their outlets, such as PCA's, have generally considered themselves exempt from state usury ceilings because legislative history indicated that was the congressional intent.[5] Thus, PCA's have been able to pass increased costs of funds on to their customers as market rates have risen. Although the loans at times have been expensive, they have always been available for qualified farm customers willing to pay the higher rates.

Tax Policies

Both commercial banks and PCA's are subject to Federal income taxes in the same manner as other corporations. However, since PCA's are cooperatives, the issuance of patronage refunds reduces their income subject to Federal taxation. The Internal Revenue Service requires at least 20 per cent of the refund be paid in a cash disbursement, in which case the tax incidence for the total refund falls on the patron. The remaining 80 per cent can be paid out in the form of a noncash disbursement to the patron, such as stock issues in the PCA. Such a noncash disbursement results in an increase in equity capital. Either way, the patronage refund reduces the tax liability. Consequently, PCA's (and other Farm Credit System lenders) have greater flexibility in shifting tax incidence and reducing tax liability than do commercial banks, and thus appear to have a competitive edge in accumulating internal capital.

BANK PERFORMANCE

Many bankers believe that these differences give PCA's an advantage over banks in

---

[5] Enactment of the Farm Credit Act Amendments in December 1980 specifically exempted all PCA lending from state usury ceilings.

competing for non-real estate farm loans.[6] Bankers often feel they are operating under rules that both restrict their lending ability and raise their costs relative to PCA's. These differences, they contend, have been partly responsible for the decline in bank market share of non-real estate farm loans while enabling PCA's to continue to hold their market share. Moreover, many bankers believe that smaller market shares may result in lower bank profitability, particularly for rural banks where opportunities for nonagricultural investments may be limited.[7] If one presumes that market share is important to bank profitability, one would expect that banks with large non-real estate farm loan market shares to also have larger profits and stronger overall performance. If so, differences in regulatory frameworks that result in declining bank market shares would be considered economically harmful to banks.

On the other hand, if banks with low market shares are as profitable or more profitable than banks with high market shares, one could conclude that long-run differences in the regulatory framework between banks and PCA's may have little effect on bank performance. Presumably then, banks could profitably adjust to market share shifts.

Table 2 shows the ranges of market share of non-real estate farm loans held by all commercial banks located in PCA districts in Colorado, Iowa, Kansas, Nebraska, Oklahoma, and South Dakota. As shown, banks in some districts have much larger market shares relative to PCA's than banks in other districts. For example, in Kansas almost 97 per cent of the non-real estate farm loans in one PCA district were made by banks, whereas in another district the figure was only 64 per cent.

Because sustantial variation within individual states exists in the share of non-real estate farm loans held by banks, it is possible to compare the performance of banks in areas where they maintain a large market share to the performance of banks in areas where they maintain a low market share. In each of the six states, key performance measures, such as capital-to-asset ratios, of agricultural banks located in the two PCA districts where the banks have the largest market shares were calculated and compared to the same ratios of agricultural banks in the two districts where the banks have the lowest market shares.[8] When a wide range of ratios are examined, this

Table 2
PROPORTION OF BANK AND PCA NON-REAL ESTATE FARM LOANS HELD BY BANKS*
(RANGES OVER PCA AREAS)

State	Bank Market Share Ranges (%)	Average Market Share (%)	Number of PCA Districts
Colorado	38.7 - 72.5	61.7	7
Iowa	63.6 - 87.5	78.2	16
Kansas	64.0 - 96.7	82.4	14
Nebraska	58.2 - 87.9	79.7	14
Oklahoma	51.7 - 91.8	77.8	14
South Dakota	64.0 - 89.5	79.2	9

SOURCE: Market Shares were calculated based on loan amounts outstanding and were obtained from the June 1979 Call Report for all commercial banks and from the Omaha and Wichita Federal Intermediate Credit Banks.

*Loans made by governmental agencies, individuals, and other are not included in these figures.

6 "The Big Bank Battle on the Farm," *Business Week,* March 17, 1980, pp. 152-3, and Marlin D. Jackson, chairman of the ABA Agricultural Bankers Division, in testimony before the Senate Banking Committee, June 26, 1980.

7 Alan R. Tubbs and Robert S. Smith, "What Role for Rural Banks in Ag Credit," *ABA Banking Journal,* November 1980, pp. 46-56.

Table 3
T-STATISTICS OF AGRICULTURAL BANK PERFORMANCE RATIOS

	Colorado	Iowa	Kansas	Nebraska	Oklahoma	South Dakota
Performance Ratios						
Profitability:						
Equity Capital/Total Assets	1.98‡	.65	- .87	1.01	-1.40*	.82
Net Income/Total Assets	.19	.96	- .25	- .56	1.03	- .99
Net Income/Total Operating Income	- .36	.82	- .39	- .79	.19	-1.06
Net Income/Equity Capital	-1.86*	.40	.24	- .91	1.88†	-1.42*
Loan Quality:						
Loan Losses/Total Loans	1.46*	5.4	-1.71†	.11	.35	-1.22
Rates of Return:						
Interest and Fees on Loans/Total Loans	2.15‡	1.65†	-2.19‡	.88	1.75†	- .13
Interest on Treasury and Agency Securities/Treasury and Agency Securities Outstanding	1.17	- .88	- .25	- .11	.95	- .39
Interest Expense:						
Interest on Large CDs/ Large CDs Outstanding	.66	-1.03	-1.13	.52	1.21	- .23
Interest on All Time and Savings Deposits/Time and Savings Deposits Outstanding	.39	- .50	1.00	1.00	- .01	.78
Growth (December 1978-December 1979):						
Percentage Change in Net Income	1.27	1.08	.30	-1.59*	1.26	1.31*
Percentage Change in Total Assets	.27	.51	.12	-1.72†	- .20	.36

*Significantly different from zero at the 20 per cent level.
†Significantly different from zero at the 10 per cent level.
‡Significantly different from zero at the 5 per cent level.

procedure allows for a fairly detailed analysis of bank performance between the two groups of banks in each state.[9]

Performance Results

Performance ratios are used to judge the growth and profitability of the banks, to indicate the success of management decisions and serve as measures of financial strength. The ratios examined in this study provide general measures of profitability, loan quality, rates of return, interest expense, and growth.

[8] An agricultural bank was defined as having at least 35 per cent of its loans in agricultural loans (25 per cent in Colorado) and total assets of less than $100 million.

[9] Specifically, individual bank data were averaged over the 1979 quarterly Call and Income Reports. These data were then used to get respective average ratios for banks in high and low market share areas. A "t-test" was then applied to determine if there was any statistical difference between the average of the two groups. For further explanation on the procedure, see Jan Kmenta, *Elements of Econometrics*, Macmillan, New York, 1971, pp. 136-9.

Table 3 presents t-statistics of agricultural bank performance ratios calculated in the manner described above. The t-statistics measure the degree of statistical difference between the average performance ratios for the two groups of banks. The closer the t-statistics are to zero (regardless of their sign), the lower the statistical significance of the difference between the average ratios. In this case, the performance of the low market share banks would likely be as profitable as that of the high market share banks. On the other hand, larger t-statistics imply that the likelihood of significant differences between the two groups of banks becomes greater. Hence, ratios with larger t-statistics indicate that the performance of the two groups of banks would likely be very dissimilar, suggesting differences in the profitability of high market share banks as compared to low market share banks. The negative t-statistic merely indicates that low market share banks had a larger average ratio than high market share banks.

The most striking result shown in Table 3 is the general lack of statistical difference between the average ratios for the two groups of banks. Low market share banks generally exhibit rates of return, growth, and profitability ratios that are not significantly different than high market share banks. As shown in Table 3, there are only three cases where there is any large difference (i.e., statistically significant at the 5 per cent level or less) between the performance ratios of the two groups of banks. In Colorado, for example, banks with high market shares have larger capital-to-asset ratios and interest returns on total loans than low market share banks. In Kansas, it is the low market share banks that receive more interest on total loans. In all other cases, the results indicate that the performance ratios of the two bank groups are, in general, the same. Therefore, these results would tend to show that although PCA's may have relatively large market shares in some areas, bank performance in those areas is generally unaffected and apparently is not dependent upon a large non-real estate farm loan market share. Consequently, although differences exist between the regulatory frameworks of banks and PCA's, which may indeed lead to market share shifts, they may not be as significant as many observers believe.

CONCLUSIONS

During the last decade, non-real estate farm lending has grown rapidly in an increasingly competitive environment among the various institutional lenders. Commercial banks and PCA's, the two largest lenders, operate under very different frameworks, with PCA's facing generally less stringent regulations concerning lending limits, reserve requirements, usury laws, and tax policies. Nevertheless, in some areas, rural banks have retained a much larger share of non-real estate farm loans than PCA's, while in other areas—although PCA's have captured a larger share of the market—banks are just as profitable as those with large market shares. Thus, while some may conclude that PCA growth has been due to the differences in the regulatory framework, it appears that the resulting effect upon bank performance has not been economically harmful.