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Banking and Farm Credit:

An Uncertain Future

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One of the major issues involved in the current reappraisal of the organization of the commercial banking system is its role as a source of farm credit. Historically, commercial banks have been a primary source of such credit with a large proportion being channeled through the small rural banks. For a variety of reasons, the economic function of these banks is being critically examined and their survival in a rapidly changing economy questioned. In recent years, several proposals have been advanced which would either reduce the dominance of small banks in rural areas or provide them with greater access to financial resources. This paper presents some of the background and issues that are part of the overall problem with respect to the financing of agriculture by commercial banks.

Trends in Farm Finance.

The need for an evaluation of the commercial banking system as a source of farm credit arises out of the increasing financial requirements of the agricultural sector. Since World War II, agriculture has experienced a rapid transformation in terms of applied technology and increased productivity. The transformation in production has led to significant shifts in the financial structure of the industry and to a corresponding increase in the use of funds of off-farm origin.

Increases in the financial flows in agriculture are the result of various factors. Perhaps the most visible and undoubtedly the most important of these is the extent to which capital has been substituted for labor in agricultural enterprises. The impact of this substitution process is reflected in the 146 percent increase in the value of production assets employed in

agriculture between 1950 and 1969.^{1/} A related cause for greater financial requirements is the trend toward the specialization of farm production with attendant reliance on purchased nonfarm-produced inputs. Total farm operating expenses have risen from \$19 billion in 1950 to \$36 billion in 1968, a gain of almost 90 percent. A third important demand on financial flows comes from the transfer of farm real estate assets, a reflection of the farm adjustment process that has led to the enlargement of individual farm units and the effect of the capitalization of productivity gains into land values.

The decline in farm numbers and increasing size of farms associated with the adjustment process adds a further dimension to the financial picture. On the average, the value of production assets employed per farm increased four-fold between 1950 and 1968 while per farm production expenses approximately doubled. Not only have the industry demands for capital and credit increased to a considerable extent, but there has also been a concentration of these funds into fewer hands and a significant change in the financial requirement of individual farm operators.^{2/}

The future promises a continuation if not acceleration of these trends. Several recent studies have analyzed and projected the growth in farm capital to the year 1980.^{3/} While the projections varied to a considerable

^{1/} The Balance Sheet of the Farming Sector, 1969, Agriculture Information Bulletin No. 340, Economic Research Service, U.S. Department of Agriculture, January 1970. Production Assets include value of real estate and nonreal estate assets and exclude value of household furnishings and financial assets.

^{2/} A more comprehensive review of this change can be found in "Impact of Structural Changes on Capital and Credit Needs" by John R. Brake, Journal of Farm Economics, Vol. 48, No. 5, December 1966. p. 1536.

^{3/} John R. Brake, op. cit. and Earl O. Heady and Luther G. Tweeten, Resource Demand and Structure of the Agricultural Industry, Iowa State University Press, Ames, Iowa, 1963, and Earl O. Heady and Leo V. Mayer, Food Needs and U.S. Agriculture in 1980, Technical Papers - Vol. I. National Advisory Commission on Food and Fiber, August 1967. These studies are summarized by Emanuel Melichar and Raymond Doll in Capital and Credit Requirements of Agriculture and Proposals to Increase the Availability of Bank Credit, Fundamental Reappraisal of the Discount Mechanism Project #24, Board of Governors of the Federal Reserve System, November 1969.

extent depending on the basic assumptions each one used, it can be concluded that capital accumulation will continue at a fairly rapid pace. Production assets in agriculture, for example, grew at an average annual rate of about 6 percent in current dollars between 1965 and 1969; average annual growth rates during the 1970's are projected from 2 to about 5 percent. This would lead to capital asset values of \$359 billion to \$490 billion by 1980 as compared to \$281 billion in 1969.

Farm incomes have risen far less rapidly than the value of farm assets. Aggregate gross farm income in the U.S. advanced only 52 percent between 1950 and 1968, and aggregate net incomes advanced just 9 percent. Although lagging behind capital accumulation figures, on a per farm basis these incomes have exhibited more respectable gains of 193 and 98 percent, respectively. Future gains in farm incomes will likely be at or near current rates, which means that the capital accumulation process will continue to outrun increases in income. As a result, after rising production expense figures have been added, the total financial flows into agriculture from nonagricultural sources will be significantly larger than they are now.

The rise in financial flows was estimated in a recent study by Emanuel Melichar in which he translated capital stock projections into capital flows that will be required for projected capital expenditures on an annual average to the end of the 1970's.^{4/} Melichar identifies the financial requirements for capital accumulation, capital replacement, inventory changes, working capital, and the transfer of land assets through sales. This produces an estimate of capital flows rather than capital stocks and provides a representation of the total capital requirement of agriculture.

^{4/} Emanuel Melichar and Raymond Doll, op. cit. A part of the Melichar study can be found in "Farm Capital and Credit Projections to 1980," American Journal of Agricultural Economics, Vol. 51, No. 5. December 1969, p. 11-72.

The findings of the Melichar study are quite impressive. Annual capital flows increased from an average of \$7.5 billion in the 1950-54 period to \$10.8 billion in the latter half of the 1960's. Estimates of capital flows for the 1970's vary depending on capital stock projections. The Melichar estimates indicate that farm capital flows could range from a low of about \$13 billion to almost \$19 billion per year during the 1975-79 period.

One of the critical questions facing agriculture involves the source of funds for these capital flows. In the past, capital flows were primarily financed through farm generated cash flows, that is, net income, depreciation allowances and, to a limited extent, nonfarm earnings of the farm operators. Borrowing has been of lesser importance despite the pronounced trend toward the use of debt as a means of financing capital flow evidenced by the fourfold increase in total farm liabilities between 1950 and 1968. The shift toward debt financing reflects both the rapidly increasing use of capital assets and the inability to increase farm generated cash flows because of slowly rising farm incomes.

In the Melichar study, the contribution of farm generated cash flows to total capital flow increased from \$6.5 billion in the early 1950's to \$6.9 billion in the 1964-69 period, while debt rose from \$0.9 billion to \$4.0 billion.^{5/} Projecting these figures through the 1970's, Melichar estimates that the average annual increase in debt would range from \$3.4 billion to \$8.9 billion depending upon the basic capital stock projection. These projections imply an outstanding debt of over \$100 billion by 1980 -- a sharp rise from the \$56 billion outstanding in 1969. As they are based on a number of assumptions, these figures should be interpreted with some care. Moreover, the distribution of capital flows between debt and farm generated cash flows is based on past patterns which

^{5/} Emanuel Melichar and Raymond Doll op. cit.

will not necessarily hold in the future; and, to the extent that other sources of equity funds can be developed, the burden of debt could be reduced. Nevertheless, the basic assumptions underlying the projections appear reasonable, and these figures can be taken as an indication of the increased burden agriculture will place on the current sources of funds.

Sources of Farm Credit.

These trends in the financial needs of agriculture have direct implications for the commercial banking system. Over the years, banks have been a primary institutional source of farm credit. Banks in recent years have supplied about 25 percent of the total amount of farm debt outstanding and 44 percent of the amount supplied through institutional lenders (see table). The amount of farm debt held by banks has grown more than fourfold since 1950, a rate slightly under that of total farm debt. For the most part, bank lending to farmers has been concentrated in the short-term or nonreal estate category; in 1968 it accounted for 72 percent of bank lending, a proportion largely constant since 1950. Much of the long-term lending by banks in recent years represents a shifting of short-term borrowing to long-term loans secured by real estate rather than for the purchase of land. The main lending function of banks, then, has been to provide short-term production and intermediate-term credit.

While banks hold a dominant position as a source of institutional funds for agriculture, there has been some weakening in that position over time. The cooperative credit system, including the Production Credit Associations (PCA) and the Federal Land Bank Associations (FLB), has shown marked gains in the amount of credit extended to farms, experiencing growth rates far exceeding that of banks. There has also been some shifting among other farm lenders in terms of their relative share of outstanding farm loans. The estimated amount of credit extended by noninstitutional lenders dropped from about 43 percent of the total in 1950 to just under 41 percent in 1968. Insurance companies, a

United States Farm Debt Outstanding by Principle Source of Credit
Select Years 1950-1968
(\$ Millions)

	1950		1960		1965		1968		1968 as a % of 1950
	\$	%	\$	%	\$	%	\$	%	
Nonreal Estate Debt									
All Commercial Banks	2,048	19.1	4,819	20.4	6,990	19.4	9,272	18.9	453
Production Credit Assoc.*	437	4.1	1,451	6.0	2,402	6.7	3,694	7.5	845
Farmers Home Adm.	347	3.2	498	2.1	644	1.8	797	1.6	230
Merchants, Dealers, Others	2,300	21.5	4,800	20.3	7,100	19.7	9,760	19.9	424
Total Nonreal Estate Debt	5,132	47.9	11,568	48.9	17,136	47.6	23,523	48.0	458
Farm Mortgage Debt									
All Commercial Banks	937	8.7	1,631	6.9	2,669	7.4	3,542	7.2	378
Federal Land Banks	965	9.0	2,335	9.9	3,687	10.2	5,563	11.3	576
Life Ins. Companies	1,172	10.9	2,819	11.9	4,288	11.9	5,543	11.3	472
Farmers Home Adm.	193	1.8	439	1.9	619	1.7	536	1.1	278
Individuals and Other	2,312	21.6	4,857	20.5	7,632	21.2	10,308	21.0	446
Total Mortgage Debt	5,579	52.1	12,081	51.1	18,895	52.4	25,492	52.0	457
Total Farm Debt Outstanding**	10,711	100.0	23,649	100.0	36,031	100.0	49,015	100.0	458

*Includes F.I.C.B. Loans and Discounts to private financing institutions.

**Totals may not add due to rounding

Source: Agricultural Credit and Related Data, 1968, American Bankers Association

major source of farm real estate loans, have shown a decrease in their relative share, holding about 11 percent of total outstandings in 1969 as compared to 13 percent in 1950. The share held by banks during that period dropped from about 27.8 to 26.1 percent. The Farmers Home Administration, never a major source of credit, accounted for only 2.7 percent of outstanding loans in 1969 as compared to 5.1 percent in 1950. All of these declines in shares were absorbed by the PCA and the FLB: the PCA share has increased from 4.1 to 7.5 percent of total outstandings while the FLB's has shifted from 9.0 to 11.3 percent during the 1950-69 period.

This changing pattern is more pronounced in the light of data on outstanding loans held by institutional sources. In 1969, banks held about 44.1 percent of total loans outstanding, down from 48.9 percent in 1950, while the cooperative system increased its share from 23 to 32.8 percent. These changes in the banks' relative position as a source of farm credit along with the slower growth rate provide a basis for the concern over future bank participation in the agricultural credit market. To a large extent, the reasons for the decline can be traced to the economic organization of banking.

Farm Credit Extension by Commercial Banks.

In terms of total bank lending, agricultural credit is only of relatively minor importance. Farm loans typically account for about 5 percent of total bank loans outstanding for all banks in the nation. Farm lending activity, however, is concentrated in a large number of relatively small rural banks, with farm loans representing one-half or more of their total loan portfolios. Thus, while farm loans are a small part of all loans made by commercial banks, a disproportionately large number of banks are engaged in the extension of farm credit to a significant degree. Moreover, there is generally an inverse relationship between the volume of deposits held by a bank and the proportion of farm loans to total loans.

The small country bank, which is the dominant source of farm credit, is the most directly affected by changes in the structure of agriculture. This means that the potentially large expansion of credit requirements in agriculture will primarily affect that part of the commercial banking system representing the smallest share of resources.

The basic trends in farm finance suggest that these small banks will have a less than favorable position for future participation in the farm credit market.^{6/} The primary source of loanable funds for these banks has been deposits, but as the amount of deposit growth is closely related to the growth in aggregate income in their market area, for many rural banks this means aggregate farm income. As previously indicated, farm income has been increasing at a fairly slow rate, certainly much slower than the demand for credit. Loanable funds available to these banks must thus withstand increasing pressure as loan demand grows. In recent years this gap has been filled by sales of government securities and other bank investments, a process with obvious limitations. It appears from this that those major farm lending banks will be unable to meet increases in farm loan demands through deposit inflows. While deposit inflows are, of course, only one among several sources of loanable funds available to a bank, the point stressed here is that if many of these banks are to significantly participate in the accommodation of the expected growth in demand for farm credit, they will be unable to operate on the basis of deposit growth and will thus need to rely on supplemental resources to a greater extent.

A second general problem facing small country banks is the rapidly rising credit requirements of the individual farm unit. As noted earlier, individual farm debt has risen dramatically in recent years, and the requirements

^{6/} This situation is given more extensive treatment in "Central Banking and the Availability of Agricultural Credit," Andrew F. Brimmer, Journal of Agricultural Economics, Vol. 50, No. 2, May 1968.

for operating credit during a year can far exceed year-end outstanding balances. Yet, banks are limited in the amount they can extend to an individual borrower by legal restrictions relative to bank capital or by management decisions related to risk or liquidity considerations. These limitations hamper smaller banks as they compete for the accounts of the larger, more prosperous farm borrowers.

Collectively, these trends suggest that the capacity of many country banks is being surpassed by the growth taking place in farm credit requirements and that these banks will not be able to effectively serve agriculture in the future. The main problem, however, appears to be with bank participation in this market rather than with the overall flow of funds into agriculture. This observation is made on the basis of the availability of alternative sources of nonbank credit and the largely untapped sources of equity capital that could be attracted through changes in farm corporation and other organizational laws.

Historically there is little evidence of prolonged capital shortages in agriculture. In the face of credit restrictions, various arrangements were developed in the form of new institutions, subsidized credit or through the merchant, dealer and "other" credit category.^{7/} It can be reasonably assumed that as farmers grow in financial strength in the future, adequate credit flows will also be developed to meet their credit requirements. Certainly, if present farm finance trends continue and the banking system fails to solve the dilemma

^{7/}The Federal Government has been a prominent source of financial relief. Several of its programs were analyzed by the Commission on Money and Credit. See especially "The Credit Programs Supervised by the Farm Credit Administration" by D. Gale Johnson and "The Federal Credit Programs for Individual Farm Development" by Dale E. Hathaway in Federal Credit Agencies Commission on Money and Credit, Prentice-Hall, Inc., Englewood Cliffs, N.J., 1963. Another important source of farm credit is that extended by merchants and private individuals. See Merchant and Dealer Credit in Agriculture by Wilellyn Morelle, Leon Hesser and Emanuel Melichar, Board of Governors of the Federal Reserve System, Washington, D.C., 1966.

facing small country banks, there will be a shifting of farm credit sources, and some frictions in credit flows will develop. There is little logic, however, in arguing that a solution to the dilemma is essential to the flow of credit and the growth of agriculture. The question is rather the degree to which the commercial banking system will participate in the farm credit market.

Proposed Changes in Farm Credit Flows Through Banks.

From the banking system's viewpoint, the problems facing rural banks are serious and require correction. Several proposals have been suggested to enhance the flow of funds through the banking system into agriculture, proposals ranging from schemes to strengthen the rural banks' position by creating greater access to nondeposit sources of funds, to plans that would cause fundamental changes in the economic organization of the banking system. These suggestions share the goal of maintaining or increasing the participation of banks in the farm credit market, and all would involve some degree of change in current legal and institutional arrangements. However, they approach the problem of the rural bank with significant differences in basic assumptions, differences which raise important questions due to the public policy implications of the proposals.

In general, these different assumptions can be classified into two broad groups. One is that the flow of credit into agriculture through banks is restricted because of the inadequacy of the institutional arrangements which tie the rural bank to the money markets. It is argued that rural banks suffer in their ability to acquire money market funds because of the size and type of the banks' transactions, their relatively isolated locations and the size of the institutions themselves. Perhaps the best statement of this position is that of Raymond Doll of the Kansas City Federal Reserve Bank who proposes, among other things, the development of a secondary market for rural bank

portfolio items.^{8/} Through this kind of mechanism, rural banks would supposedly gain access to nondeposit funds and then be in a position to extend more credit to farmers.

A similar approach to the problem lies behind the Federal Reserve proposal to provide for seasonal fluctuations through the discount window.^{9/} Here it is argued that inherently agricultural seasonal swings in both deposit and lending activity lead to difficulties in deposit management and reduced lending activity on the part of banks. The proposed seasonal accommodation would allow banks to rely on nondeposit funds to absorb the swings and would permit them to more effectively utilize their deposits for these types of local lending.

The second broad view of the rural bank problem is that many of these small banks are economically inefficient in terms of costs of operation and their ability to service loan customers. The proposal to correct this is to liberalize banking legislation in order to allow bank users access to economically larger banks.^{10/}

Recent attempts to extend branch banking systems into rural areas through changes in state banking legislation rest to a considerable extent upon the latter argument. In general, proponents of this change argue that the dominance of the small unit bank and the restricted resources available to these banks have hampered rural economic development and impeded the flow of

^{8/} "Unified Markets for Rural Banks" by Raymond J. Doll, Banking, Vol. 61, No. 7, January 1969, p. 63

^{9/} Reappraisal of the Federal Reserve Discount Mechanism -- Report of a System Committee, Board of Governors of the Federal Reserve System, July 1968.

^{10/} Several persons have adopted this view. For example, see "Branching Often Best Way to Meet Financial Demands of New Market" by William B. Camp, former Comptroller of the Currency, American Banker, March 25, 1968 and "Courts, Agencies Should Re-examine Criteria for Banking Markets" by George W. Mitchell, member Federal Reserve Board, American Banker, June 18, 1968.

credit to farmers. Support for this position is found in several studies of banking operations which provide fairly clear evidence that economies of scale exist within the industry and that economic performance is affected by bank size and control. To conclude from these studies that a structural change, such as branch banking, will have a beneficial effect on farm credit, however, requires an assumption that the advantages of scale economies and banking organization extend to all banking operations or, more to the point, to the farm lending activities of the bank -- an assumption that is, as yet, unsupported by empirical evidence. Moreover, little information exists regarding the allocation of credit among the alternatives available to branch banks or the expected relationship as applied to individual loans. In other words, is there any reason to expect that a relaxation of limitations on bank size will result in a larger flow of credit into the agricultural sector or improved lending terms with respect to the individual borrower?

The notation that advantages of scale might have little positive influence on farm credit extension is expressed to some extent in the already mentioned proposals designed to improve the flow of credit into agriculture through the commercial banking system while not necessitating a change in structure. The rationale behind these proposals is that restrictions on farm credit flows are due more to forces external to the bank and to money market imperfections than to problems associated with banking structure. These forces would include legal limitations on bank lending activities, the types of lending arrangements that are associated with agricultural credit, and a separation of the farm sector from the major money markets. While this view generally recognizes the structural problems involved where small unit banks are the dominant supplier of agricultural credit, much more emphasis tends to be placed on the external limitations on the flow of credit into agriculture. The argument is weakened, however, to the extent that these external limitations have

not been overcome through some institutional arrangement in the past and that no attention has been paid to the possibility that small banks may be inefficient in the use of additional resources or would continue to be economically inferior as a source of credit to the individual borrower.

This problem is of considerable importance in rural areas where small unit banks dominate the banking structure and agriculture is a primary source of economic activity. While the debate over branch banking involves several major issues of which the flow of farm credit is only one and while decisions to change banking structure might be made regardless of any impact on farm credit, it is important that this vital link in the farm production process be considered. It is obviously the hope of the branch proponents that gains in overall banking efficiency will produce beneficial results for agriculture. This may be the case, but there is little solid empirical evidence to demonstrate its actuality. At the same time, attempts at improving financial flows through the banking system might be wasted effort if the small unit banks are unable to use this flow effectively. The possibility also exists that some combination of approaches will be needed to insure the continuous participation of banks in the agricultural credit market. These are just a few of the ramifications that the policy maker will have to consider in determining the future structure of banking.

A complete evaluation of specific proposals or, for that matter, of the complex overall relationship between banking and agricultural credit, has only been superficially treated in this report. The future of the small rural bank and its role as a supplier of farm credit is uncertain, however, and there would appear to be little question that some changes will be occurring. It is also quite possible that decisions to change the structure of commercial banking will take place regardless of their impact on farm credit flows. Thus, it

is important that all aspects of the issue be considered and understood so that agricultural production will not be hampered by a disruption in credit flows.

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