A Symposium Sponsored By
The Federal Reserve Bank of Kansas City

FUTURE SOURCES OF LOANABLE FUNDS FOR AGRICULTURAL BANKS

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December 8-9, 1980

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Foreword

Farmers and ranchers — as well as the firms supplying farm inputs and handling farm products — have greatly increased their use of debt financing in recent years. Much of this credit has been supplied by commercial banks. In fact, about 25 per cent of all credit outstanding to agricultural producers on January 1, 1980, was extended by commercial banks. Over the years, banks serving agriculture have fulfilled a vital role in fostering the sound economic development of their communities.

As loan demand has continued to climb at these banks, they have had to become more aggressive in acquiring loanable funds, both from within their communities and from sources outside those communities. Moreover, changes in the competitive and regulatory climate for financial institutions have greatly increased competition for loanable funds while opening new opportunities for acquiring these funds.

A symposium entitled "Future Sources of Loanable Funds for Agricultural Banks," held on December 8 and 9 in Kansas City, allowed a distinguished panel of participants to examine a number of alternatives for supplying loanable funds to agricultural banks. This was the third in a series of symposia hosted by the Federal Reserve Bank of Kansas City. We hope these proceedings will be of interest to those wishing to learn more about this timely issue.

The proceedings were compiled by Marvin Duncan, assistant vice president .and economist with the Federal Reserve Bank of Kansas City. Assistance was provided by Ann Laing Adair, research associate with the bank.

Roger Guffey

President

Federal Reserve Bank of Kansas City

The Contributors

Group head of correspondent banking activities, **John** W. **Ballantine** is vice president at First National Bank of Chicago. Holder of a B.A. from Washington and Lee University and an M.B.A. from the University of Michigan, Mr. Ballantine joined First Chicago's trust department in 1970 before transferring to the banks and bank holding company group in 1974.

Emphasizing financial management, risk management, and financial markets for agriculture in both research and teaching, **Peter J. Barry** has participated in many workshops and conferences with agricultural lenders. His publications include professional journal articles, bulletins, magazine articles, and a book on financial management in agriculture. He has been a member of the faculty at the University of Guelph, Ontario, and Texas A&M University.

Raymond J. Doll is former director of research at the Federal Reserve Bank of Kansas City. A well-known authority in the area of rural finance, Dr. Doll has served as chairman of the Committee on Agriculture and Rural Development of the Federal Reserve System's Research Advisory Committee, and was a staff member of the Graduate Schools of Banking at the University of Wisconsin and Rutgers. Dr. Doll taught and did research work at Kansas State University, the University of Minnesota, and the University of Arkansas before coming to the Fed in 1951 as an economist.

Combining practical experience in agriculture as well as banking, **Marlin Jackson,** former chairman of the American Bankers Association's agricultural division, has not only taught high school vocational agriculture, but also been active in the banking community at the national and state levels. Since joining Security Bank, Paragould,

Arkansas, as chairman and president, he has taken the bank from $9 million in deposits to more than $50 million.

Former vice president and secretary to the board of directors at the Federal Reserve Bank of Kansas City, **Robert** E. **Knight** is now president of Alliance National Bank, Alliance, Nebraska, and a nationally recognized authority on correspondent banking. He has published numerous articles in Federal Reserve periodicals and other journals. Dr. Knight is presently an instructor at both the Stonier and the Colorado Schools of Banking.

John E. Lee is director of the National Economic Division at the U.S. Department of Agriculture. During his 18 years with the USDA, Dr. Lee has served as director of a number of divisions within the organization, including farm production economics, commodity economics, and national economic analysis, as well as chief of the agricultural finance branch. He is a native of Alabama and received his B.S. and M.S. degrees from Auburn University and his Ph.D. from Harvard University.

Widely known for his work in agricultural finance, **Emanuel Melichar** is a senior economist with the Board of Governors of the Federal Reserve System. Dr. Melichar has been with the Board of Governors for the last 18 years and has written numerous articles, including "Financing Agriculture: Demand for and Supply of Farm Capital and Credit," "Impact of Banking Structure on Farm Lending," and "Improved Fund Availability at Rural Banks."

Donald C. Miller, vice chairman and director of the Continental Illinois Bank and Trust Company, Chicago, has been with the bank for 22 years. Mr. Miller's experience at Continental Illinois Corp. has allowed him to become active in a number of banking associations and the Tax Institute of America, and to serve as chairman of the educational council of the American Bankers Association and chairman of the ABA's financial officer study group. He has written many articles in the *American Economic Review, National Tax Journal,* and *American Financial Journal.*

Heading Bank of America's worldwide agribusiness relationships, **Walter Minger,** as senior vice president, is responsible at the policy

level for the bank's extensive agricultural lending activities. He served in 1978 as chairman of the executive committee of the Agricultural Bankers' Division of the American Bankers Association, and has served for the past several years on the U.S. Chamber of Commerce's food and agricultural committee and international investment subcommittee.

C. P. Moore is president of Northwestern National Bank, Sioux Falls, South Dakota. Throughout his career, beginning as a county agent in Montana and loan officer with the Producation Credit Association and Federal Land Bank in Montana, Mr. Moore has worked closely with agriculturally related activities and with industrial and community development in the upper Midwest. He has spoken at numerous farm and business conferences and published extensively on farm and livestock financing and business development.

J. Charles Partee is a member of the Board of Governors of the Federal Reserve System. Before his appointment to the Board in 1976, Dr. Partee served on the Board's staff as managing director for research and economic policy and as senior economist for the System's Federal Open Market Committee. Before that, Dr. Partee was second vice president and associate economist at Northern Trust Company of Chicago.

A writer and economic analyst with special interest in finance, monetary policy, banking structure and performance, and international business, **Sanford Rose** is associate editor of the ***American Banker.*** Mr. Rose has been an economist and editor for the Conference Board, associate editor of ***Fortune,*** and vice president of Chase Manhattan Bank. In addition to writing, he has spoken at numerous gatherings of bankers and financial executives.

Thomas R. Smith is president and director of the Fidelity Brenton Bank and Trust Company, Marshalltown, Iowa. He is an active member of the Iowa and American Bankers Associations, and was awarded the 1979 Gamma Sigma Delta Honorary Society Award of Merit and the Eagle Award by the American Bankers Association for service to bankers. He has spoken to agricultural groups in more than 20 states on agribusiness subjects and been president of the Chamber of Commerce and Community Development Corporation.

Now Director of food and agriculture at the National Association of State Universities and Land Grant Colleges, **Dale Stansbury** was until recently a staff member of the U.S. Senate Committee on Agriculture, Nutrition, and Forestry. He came to Washington in 1974 after serving as a staff economist at the Federal Reserve Bank of Dallas. Before that, he was a consultant to Battelle Memorial Institute, was on the staff of the Agricultural Financial Center at Ohio State University, and served on an OSU/AID contract in Peru.

Jim Timberlake, senior vice president of Fidelity Bank in Oklahoma City, has more than 15 years of experience in correspondent banking. He has completed his three-year term on the Executive Committee of the ABA's Correspondent Banking Division, and he authored an article for the ABA Banking Journal. He joined Fidelity Bank in 1961 and was assigned to the correspondent banking division, which he now heads.

Donald E. Wilkinson, Governor of the Farm Credit Administration, has headed the independent agency responsible for supervising the nationwide farmer-owned Farm Credit System, which makes loans to farmers, ranchers, rural residents, and agricultural cooperatives, since 1977. Before joining FCA, he served for a year and a half as an administrator of the Agricultural Marketing Service, an agency of the USDA.

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The Changing Environment for Banking

J. Charles Partee

For anyone connected with the banking business — whether banker, analyst, or regulator — it is abundantly clear that we are in the midst of a period of rapid and perhaps quickening change. The evolution taking place in financial services no doubt creates new opportunities for well-managed, innovative institutions. But it also poses substantial risks that may require changes in banking strategy and that will warrant close monitoring and careful evaluation.

The list of challenges today is extraordinarily broad. Interest rates, after dropping sharply in the spring, have escalated again to approach their unprecedented highs of early 1980. Rate volatility is without parallel in modern times, and financial markets have shown considerable instability. The competition for deposit funds is intense, and it is coming increasingly from the attraction of alternative market instruments as well as from inter-institutional rivalry. Major new shifts in the competitive environment are in the process or on the horizon, including nationwide NOW accounts on January 1, 1981, expanded lending authority for the thrifts, the explicit pricing of Federal Reserve services, the accelerating trend toward electronic funds transfers, and the gradual phaseout of all Regulation Q interest rate restraints. And all of these changes are taking place in an economic environment marked by continued rapid inflation, sluggish business, escalating energy costs, and uncertain adjustments in the structure of geographic and product markets. Credit risk potential obviously is on the rise.

So far, the banking community has weathered the storm very well indeed. This past year has not been an easy one for banking, given the effects of rapid inflation, a sharp but brief economic recession, and the wide fluctuations in interest rates. Yet, on balance, bank earnings have held up or increased, bank capital ratios have shown some small

tendency toward improvement, and there has been no evidence of any widespread buildup in problem loans of the sort that plagued us in the mid-1970s. There is reason for optimism, therefore, about the adaptive capacity of our banking system. But to ensure continued success during this difficult transition period, it is vital that we all recognize the need for changed banking practices in order to cope with the challenges at hand.

Competition for Deposits

In my view, the most fundamental challenge confronting banks — as well as other financial institutions — is the escalating competition for deposit funds. For many years, banks were able to depend on a growing and reasonably stable base of low-cost core deposits, mainly demand and passbook savings accounts. This situation began to change about 15 years ago, however, and in recent years rising market interest rates have encouraged holders of these deposits increasingly to seek out other types of financial instruments offering substantially higher yields. Depository institutions have faced the prospect of either gradually losing their deposit base, or else offering more attractive deposit instruments in order to hold and add to their funds. Small banks have been under particular pressure to innovate because they rely more heavily on core deposits.

With the help of liberalized Regulation Q rules, most institutions have wisely chosen the latter course. Thus, in June 1978, the depositories began to market six-month money market certificates for savers with a minimum of $10,000 to invest. These certificates, which are issued at interest rates pegged to yields on six-month Treasury bills, have proven extraordinarily popular with individuals. In less than 2% years, the amount outstanding at all institutions has risen to $355 billion, of which commercial banks hold $150 billion. Similarly, the small-saver certificate, introduced in the summer of 1979, has helped institutions defend their position in this segment of the market. These certificates have a maturity of 2% years, and their interest rate is tied to yields on Treasury securities, with a ceiling cap presently of 12 percent for thrifts and 11¾ per cent for the banks. Although they have been available only for a little more than a year, the amount outstanding has already risen to nearly $90 billion.

Relatively small savings balances thus have become increasingly rate sensitive, just as large certificates of deposits had earlier, partic-

ularly after banks were freed from rate ceilings in 1970 so as to compete successfully with the market. The result has been a sharply rising cost of funds for banks, large and small. Equally important, the cost of funds is no longer predictable, since it will need to vary relatively promptly in order to keep the returns paid for such deposits competitive with the market. But let me be clear: There is no alternative. The institutions would not have been able to keep their deposit base without these new, free-floating instruments. And with the open market still beckoning for new sources of funding, there is no turning back from this course.

Probably the greatest competitive threat that the depositories have had to face from the market in the last several years has been money market mutual funds. The combined assets of these funds have exploded from only $4 billion at the end of 1977 to nearly $80 billion currently. The money market funds have proven to be the most effective alternative to deposits yet devised for the consumer. By participating in such funds, the consumer is able to receive short-term yields without the expertise required to buy market instruments directly. Most funds also offer the consumer liquidity by having a draft redemption feature. While the funds are not insured, the investment risk appears relatively low because the pool of investments is composed of a diversified portfolio of high-grade assets of very short-term maturity.

Although money market mutual funds so far have attracted far less in savings balances from individuals than money market certificates and small saver certificates combined, they nevertheless have seriously challenged the position of the traditional depository institutions. Moreover, they symbolize a threat to the future of the depositories posed by an open market environment — that is, the threat that additional deposit-like financial instruments may be developed in the money market or by non-depository firms. In this competitive environment, it seems to me essential that the depositories be freed from the long-standing interest ceilings on deposits that have restricted their ability to compete against the market. The Monetary Control Act passed by the Congress last March does just that, by providing for a gradual phasing out of Regulation Q, and the Depository Institutions Deregulation Committee is now carrying out this statutory mandate.

Another less publicized provision of the Monetary Control Act that has implications for deposit competition is the increase in deposit

insurance coverage from $40,000 to $100,000. With this increased coverage, banks and thrift institutions can now issue $100,000 certificates of deposits that are both fully insured and free from deposit rate ceilings. These features can make these certificates a highly competitive instrument for attracting funds from wealthier individuals who perfer to invest in a relatively liquid, perfectly safe financial instrument.

Recently a group of small banks has used the increased insurance coverage to their advantage in a unique way. These banks, through a bankers' bank named the Independent State Bank of Minnesota, were able to sell a large money market mutual fund a $4-million package of $100,000 CD's, all issued individually by the group of small banks and all carrying the same interest rate and maturity. This novel transaction illustrates one way small banks have found to retain funds in the current highly competitive deposit market environment.

Looking just slightly ahead, another major change is about to have an impact on the market for deposits. On January 1, both banks and thrift institutions throughout the nation will be able to offer NOW accounts. These accounts were first introduced in Massachusetts and New Hampshire in the mid-1970s, and it is estimated that about two-thirds of all household transaction accounts currently are in NOW accounts in those two states. In 1976, NOW accounts were extended to the remainder of New England, and more recently to New York and New Jersey.

When banks in all states begin to offer NOW accounts in 1981, they will necessarily incur an increase in their average cost of funds. In order to get some idea of the magnitude of this increase, we have reviewed the New England experience in the period following their introduction. In Massachusetts and New Hampshire, it is estimated that NOW accounts cost banks and thrifts about 8¾ per cent in interest and services, which was some 4 percentage points more than the effective cost of demand deposits. But when NOW accounts were extended to the four other New England states in 1976, they were less costly because institutions in those states provided less generous terms. For example, the percentage of banks offering unlimited free NOW account drafts in Massachusetts and New Hampshire was 56 per cent, while in the other four states it was only 21 per cent.

When NOW accounts go nationwide next month, therefore, the effect is likely to be to raise the cost of such checking account balances significantly. The extent of the increase will depend on the

terms and conditions offered, but in the present highly competitive environment, it could easily amount to 3 or 4 percentage points. The banks that will be most vulnerable, of course, are those with a high proportion of deposits in household accounts, especially where they face intense local market competition from thrift institutions.

One cannot discuss recent developments in the competition for deposits without mentioning electronic banking. During the 1970s, electronic banking developed more slowly than many had anticipated. But I believe that we can look forward to an increasingly rapid development in this field during the 1980s, now that the trial period is behind us, and aided by the various rights and safeguards recently spelled out in the Electronic Funds Transfer Act.

One EFT device that has been particularly popular with the public is the automatic teller machine, since these machines make it possible to make deposits and withdrawals at any time. The number of ATM's at the end of 1979 was over 14,000, and it is estimated that there may be as many as 125,000 operating in the nation by the end of 1985. Although 90 percent of the ATM's are now located on bank premises, a recent survey showed that one out of four planned installations is scheduled to be located off premises, which has obvious competitive implications. In any event, it is clear that electronic banking has the potential to permit banks to extend their services to customers over a broader geographic area, where legally permitted, and thus to alter significantly the forms of competition for deposits in the years to come.

Interest Rate Developments

A second major challenge to banks, particularly the smaller banks, has been the recent marked increase in interest rate volatility. This year, we have witnessed interest rate fluctuations of unprecedented dimensions, far exceeding the range of expectations of almost all observers. Thus, interest rates rose sharply in the early part of the year to record highs — popularly characterized by a 20 per cent prime rate — dropped precipitously in the spring with the onset of recession and collapse of aggregate credit demand, and then abruptly turned upward again at midyear, with the increase accelerating in recent weeks until rates are again approaching last spring's peak. The effect of these interest rate variations on security prices has been dramatic, to say the least. For example, one long-term government bond, issued in

August 1979, at close to its par value of 100, fell to 82 late last winter, rebounded to a premium of 108 by late spring, and had fallen back again to 84½ early this week.

The full explanation for these extreme swings in interest rates is not entirely clear to me. The shift from economic expansion to sharp recession to an unexpectedly early recovery — and the associated effect on credit demands and investor expectations — provides a good part of the answer. But surely our continued high rate of inflation, and the uncertainties in lender and borrower attitudes that this creates, are also a part of the cause. Indeed, it was the increased uncertainty as to the relationship between interest rates and demands for money and credit that led the Federal Reserve in October 1979 to shift the emphasis in its operations to the provision of the bank reserves thought consistent with monetary aggregate goals, and away from market-oriented interest rate indicators.

Inflation clearly remains our nation's foremost economic problem, and we at the Federal Reserve remain committed to moderating the growth in money and credit as a means of reducing inflationary pressures. Aggregate demand for money and credit is importantly influenced by inflation and inflationary expectations, and thus there is a good chance that such demand will ebb and flow as the battle against inflation is being fought. This being so, it also seems to me a likely prospect that interest rates may continue to show unusual variation, though probably not so much so as during the extraordinary ups and downs of the past year.

It follows that, if there is substantial risk that interest rates in the future may be more volatile than in the past, bankers must adjust their thinking and their operations to this new environment. First, they must realize that it has become extremely hazardous to try to boost earnings by speculating on future interest rate movements. We are all aware of the difficulties that several major banks have encountered because they placed sizable bets on interest rate forecasts that turned out to be wrong.

But banks must go well beyond avoiding outright interest rate speculation. They also must make every effort to reduce the interest rate risk that is inherent in the depository intermediation function. Most important, banks of all sizes need to match closely their interest-sensitive assets and their interest-sensitive liabilities in order to attain a fairly constant net interest margin over wide interest rate ranges. Data at midyear indicated that the the nation's major banks

are now balancing their interest-sensitive assets and liabilities relatively well. Smaller banks, however, appear to be having greater problems. Mainly because of the dramatic increase in money market certificates since 1978, small banks in aggregate now have more interest-sensitive liabilities than interest-sensitive assets. Moreover, this gap could widen further for a time, due to the continued strong growth in interest-sensitive liabilities juxtaposed against the relatively heavier portfolio concentration that these small banks have in longer term, fixed-rate municipal bonds and real estate loans.

Given the recent sharp increase in interest-sensitive deposit liabilities, bankers generally are also emphasizing floating rate loans in their new lending activities. This response seems to me appropriate and prudent, since only in this way can they hope to match interest returns against an uncertain cost of funds — thereby stabilizing their earnings and maintaining a high level of bank soundness. At the same time, however, I would caution that a greater reliance on floating rate loans does not remove interest rate risk, but only shifts it more fully to the bank's borrowers. There needs to be a recognition of this risk by bankers and borrowers alike, so that both can determine whether there is likely to be a sufficient margin of assets or revenues to cover unexpected interest rate costs. Very generally, in an inflationary environment it can be expected that borrowers should be able to cover such costs as incomes rise along with prices, but there are bound to be exceptions to this rule.

Banks also are responding to greater interest rate volatility by reducing the average maturity of their investments. This response is not surprising, given the devastating impact that high interest rates have had on the market value of bank investment portfolios. A recent study by Salomon Brothers showed that the depreciation of the investment portfolios of a group of 35 large banking organizations at the end of March amounted to nearly 14 percent of stated book value, and equalled 27 per cent of the equity capital of these organizations. This is a very large interest rate exposure, in view of current uncertainties as to the potential range of rate variation. It must be remembered also that these figures do not reflect the rate exposure usually found in long-term fixed-rate loan portfolios, which by convention are not marked to market.

Another way that banks can protect against interest rate uncertainty is by using financial futures contracts. So far, only a very few banks have entered into these contracts in any volume, although interest in

them appears to be spreading quite rapidly. Most banks now utilizing these contracts apparently are attempting to hedge interest rate risks connected mainly with trading account securities and with mortgage commitments entered into at specified interest rates.

For the present, the bank supervisors have mixed emotions regarding bank involvement in financial futures contracts. On the one hand, we recognize that these contracts can help to hedge interest rate risk exposure, if used properly. On the other, we know that these contracts can be — and on several occasions have been — used to engage in outright speculation. The joint policy statement on this subject issued early this year also reflects our concern that some banks, particularly the less sophisticated ones, might enter into these contracts without a clear understanding of their possible implications for the bank's financial condition.

Credit Risk Exposure

A third major challenge to the banking industry, in addition to coping with the high cost of deposit competition and guarding against interest rate risk in an uncertain environment, is that of adjusting to probable changes in credit risk exposure. I have no doubt that credit risk potential is on an upward trend, and that it is likely to be reflected in all major aspects of bank lending activities. But I also believe the problem to be manageable, given careful attention by bankers to the presence of new elements of risk in their credit and lending policy decisions. At least four different areas of credit risk exposure deserve comment.

First, in our national effort to exert the discipline necessary to get inflation under control, it seems quite possible that there may be a rising incidence of financial distress situations. These may develop in various ways. Some borrowers, as I have noted, may not allow for an adequate cushion of income or assets to protect against unexpected increases in borrowing costs, particularly in an era of floating-rate loans. Others, in their financial planning, may have relied unduly on the increasing cash flows produced by inflation to service their obligations; as inflation subsides, so too will the nominal growth in cash flows. And still other borrowers may be counting unduly on strong and growing markets for their products and services; in an economy marked by anti-inflationary restraint, growth expectations based on past performance may well prove for a time to be excessive.

A second area of credit risk is that caused by unexpected external shocks to the economy. The quantum jump in energy prices provides the best example. This increase, necessitated by the developing world shortage in supply as well as by OPEC actions, has dramatically altered factor costs in production and hence the expected profitability of many product lines. Higher energy costs also are bringing important shifts in consumer spending behavior and may well alter tourist travel and vacation patterns. And the high cost of fuel, I believe, is one of the many factors contributing to the disproportionate growth in recent years of the sunbelt versus most of the northern sections of our country. If account is not taken of these changing patterns and trends, excessive commitments could be entered into and bank loan workout problems could multiply.

Foreign lending exposure is another possible problem area, in that the impact of higher petroleum prices is also having a seriously adverse effect on many of the non-oil-producing, less-developed countries. If these countries continue to experience large deficits for an extended period, some could have difficulty servicing their debts. That, of course, would bring the need to renegotiate or reschedule loans from our banks, and to find other means of easing their deficit financing problems.

I hasten to add that it is very difficult to predict how the LDC debt problem is going to work out over time. Much will depend on the ability of these countries to continue to expand their exports at the rapid pace of recent years. Also important will be their ability to limit imports that are not essential to economic development. And it is not yet clear how large a role the international lending agencies may play over the next several years in helping to finance necessary LDC deficits. But given the uncertainties, the bank supervisory agencies have been stressing that banks should avoid excessive concentrations of credit to individual countries. The rationale for this policy is to encourage banks to position themselves so that they will not be seriously damaged if one or several LDC's should encounter debt servicing problems.

A final area of credit risk that will bear close watching is in consumer lending. Partly this is a matter of the continued squeeze in the household budget positions of many families, reflecting the inflation in energy and other prices and uncertainties as to the prospects for future income growth. But also important is the increase in potential credit risk exposure arising from the new, liberalized per-

sonal bankruptcy laws. As you know, Congress recently amended the bankruptcy laws in a manner that has made the filing of bankruptcy by individuals more attractive than formerly. Among other provisions, these amendments allow individuals to retain considerably more personal assets than ever before.

It is still too early to assess the full dimensions of this change on consumer credit loss experience. However, we do know that the number of personal bankruptcies has risen very sharply this year, and there is some concern that filings may continue to expand as more people learn of the more liberal rules. Predictably, banks are already beginning to respond to the new bankruptcy provisions, mainly by tightening consumer lending standards and increasing the cost allowances made for expected credit problems.

Conclusion

In concluding, I would like to focus the discussion briefly on the situation of smaller banks, since these play a major role in financing the agricultural sector of our economy. In the last several years, these banks, too, have been subjected to great changes in their operating environment, and this trend seems bound to continue. Beginning next month, banks and thrift institutions throughout the nation will be able to offer NOW accounts, and this surely will step up competition for deposits now held by small banks. In addition, these banks undoubtedly will continue to see a significant rise in their interest-sensitive liabilities, including money market certificates and $100,000 CD's. The higher and more variable cost of funds will place increasing pressure on small banks to increase their interest-sensitive assets in order to preserve their operating margins in an environment of variable and uncertain interest rate trends. Finally, these banks will have to continue to cope with the additional hazards produced by our persistent problems of inflation and economic instability.

How small banks will fare will depend on whether they choose to compete aggressively for deposits, whether they place greater emphasis on floating-rate loans in order to balance interest-sensitive assets and liabilities, and whetehr they can maintain their credit standards in these difficult and changeable times. So far, many small banks appear to have done quite well in adjusting to their new circumstances. It is particularly encouraging to note that the net income of banks under $100 million was up 15 percent last year, and

increased 7 percent further during the first half of 1980. But major challenges still lie ahead for small banks, and for bankers and supervisors alike, it will be important to monitor the developing situation with care and flexibility.

Prospective Trends in Farm Credit and Fund Availability: Implications for Agricultural Banking

Peter J. Barry

Farm Credit markets in the United States are excellent testimony to high performance over the long term in providing credit and related services to the farm sector, and to timely innovation of new financial institutions, instruments, and practices for meeting farmers' capital and credit needs. These markets evolved from strong reliance a century ago on country or frontier banks, local merchants, land mortgage companies, and life insurance companies, to now include the Cooperative Farm Credit System, U.S. government lending agencies and credit programs, local-regional-national credit programs of many farm input suppliers, and a dual banking system with monetary control by the Federal Reserve System.

The result is a diverse set of credit sources for farmers that differ in their sources of funds, degree of specialization in farm lending, legal and regulatory environment, and degree of government affiliation. Considerable financing by individuals, especially sellers of farm land, occurs as well.

Major evolutionary features of the farm credit market are the relatively large size and the regional or national orientation of many of the intermediaries involved. The Farm Credit System has characteristics of a national branch banking organization of very large size. Life insurance companies have regional or national orientations in farm lending. So do credit programs of merchants and dealers. Even local offices of the Federal government are branches of a large national organization. Money center banks, regional banks, many branch banks, and Federal Reserve Banks also are large in size, and in many cases are considered part of the national financial markets.

The consequences of large size and regional or national orientations are largely favorable for financing agriculture. These organiza-

tions have the capacity to specialize and experience size economies in intermediation, to respond effectively to business and financial risks, and to develop ways to procure loan funds from national financial markets. Hence, loan funds originating from nonlocal sources can be made available to farmers in a timely fashion, for various purposes, and in amounts, costs, and maturities that compare favorably with other sectors of the economy. Moreover, the credit programs of government agencies can be tailored to meet specific liquidity or income maintenance needs of farmers, often on concessionary terms. All these features have strengthened the linkages between farm and nonfarm sectors, and increased the sensitivity of the farm sector to changing conditions in national financial markets.

In contrast to these size and scope phenomena, those commercial banks most heavily involved in farm lending continue to be smaller community-oriented banks located in rural areas. Their reliance on local markets for sources of deposit funds and lending activities, both of which are strongly influenced by farm and farm-related financial conditions, has caused periodic stresses in rural banks' liquidity and relatively high fluctuation in the availability of loan funds for fanners. Each period of tight credit, high interest rates, and financial crisis in the last two decades — 1960, 1966, 1969-70, 1973-74, and 1979-80 — has brought increased concern about these banks' competitive position in farm lending and resulting instability in rural financial markets.

This paper's objective is to set the stage for evaluating commercial bank financing of U.S. agriculture in the 1980s with emphasis on the prospects of future sources of funds for agricultural banks. The current setting is reviewed in terms of farm credit demands, the roles of major farm credit suppliers, and the factors that make the 1980s a crucial time in shaping farm credit markets of the future. Several projections of future capital and credit needs for the farm sector are presented and evaluated in terms of the role of the major credit suppliers. Consideration is given to the implications for agricultural banking of changes in the regulatory environment of financial institutions brought about by the Depository Institutions Deregulation and Monetary Control Act of 1980. These regulatory reforms, along with other possible changes in the regulation of banking, should strongly influence costs and availability of loan funds for agricultural banks and their competitive position in rural financial markets.

Farm Sector Debt and Financial Structure

As published data and past analyses show, the use of debt in the farm sector grew substantially since 1950 to levels that far exceed earlier projections [Brake; Melichar; Melichar and Doll]. Several factors have combined to cause this growth, each differing in its timing and degree of importance. Included are a) consolidation of farm units into larger sizes and fewer numbers; b) withdrawal of equity capital by retiring farmers, c) continued mechanization and modernization of farming operations, d) greater emphasis on marketing policies and inventory management, e) higher costs of operating inputs and capital items, f) reduced savings rates from net cash flows by farm families [Melichar], and g) public loan programs responding to various kinds of farm risks.

At the farm sector level, the annual compound rate of growth for total farm debt increased from an average of 7.1 per cent in the 1950s to 7.9 per cent in the 1960s and to 11.7 per cent in the 1970s (Table 1). Since 1975, the annual growth rate for total farm debt averaged 14.4 per cent with non-real estate farm debt growing at more than a 16 per cent rate and farm real estate debt growing at a 12 per cent rate. The higher growth rate for non-real estate debt reversed a pattern of more rapid growth of real estate debt in the 1950s and 1960s.

These accelerating growth rates for'debt make the farm sector the fastest growing component among domestic sectors that use U.S. credit market debt [Board of Governors]. Table 2 shows market shares and growth rates of credit market debt for the farm sector and

TABLE 1
Growth Rates for Farm Debt and Inflation, 1950-1980
Annual Compound Percentage

	1950-1960	*1960-1970*	*1970-1980*	*1975-1980*
Total Farm Debt	7.1	7.9	11.7	14.4
Farm Real Estate Debt	8.0	9.2	11.0	12.4
Non-Real Estate Farm Debt	6.3	6.5	12.1	16.0
Consumer Price Index	2.2	2.6	7.4	8.2[1]

TABLE 2

Distribution and Growth Rates of Credit Market Debt Owed by Nonfinancial Sectors, 1950-1978

	Distribution							*Growth Rates*		
Sector	*1950*	*1955*	*1960*	*1965*	*1970*	*1975*	*1978*	*1950-1978*	*1970-1978*	*1975-1978*
				%						
U.S. Government	51.3	40.6	31.5	25.0	20.3	18.8	18.6	3.87	9.60	11.96
State and Federal Government	5.9	8.2	9.6	9.8	10.1	9.4	8.4	9.05	8.29	8.16
Households	17.2	24.2	29.1	32.7	32.4	32.5	34.6	10.42	11.68	14.68
Farm	2.3	2.4	2.7	3.1	3.0	3.5	3.8	9.71	13.32	15.01
Nonfarm, Non-Corporate	3.1	3.3	3.5	4.5	5.2	5.3	4.6	9.30	9.32	7.58
Corporate	16.9	18.4	20.5	21.3	25.4	26.5	25.1	9.24	10.64	10.34
Foreign	3.3	2.9	3.1	3.6	3.6	4.0	4.9	9.21	15.68	20.61
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	7.70	10.8	12.36

Source: Federal Reserve System

five other nonfinancial borrowing sectors. From 1970 to 1978, the farm sector shows the highest growth rate (13.32 per cent) for debt, although its share of total credit market debt is still less than 4 per cent at year-end 1978. Thus, the accelerating growth of farm debt since 1950 has had a much greater impact on the farm sector than on the national credit market.

Evaluating the impact of greater debt use on financial structure of the farm sector depends on the criteria used. Figure 1 shows measures for two concepts of financial leverage at the farm sector level for individual years for 1950-1980. The stock concept of leverage, measured by the debt-to-asset ratio, D/A, shows the relative claims of debt and equity holders on the stock of total farm assets at various points in time. The flow concept of leverage, measured by the ratio of interest paid to current returns to farm assets, i/r, shows the relative claims of debt and equity holders on returns to farm assets experienced at various times.

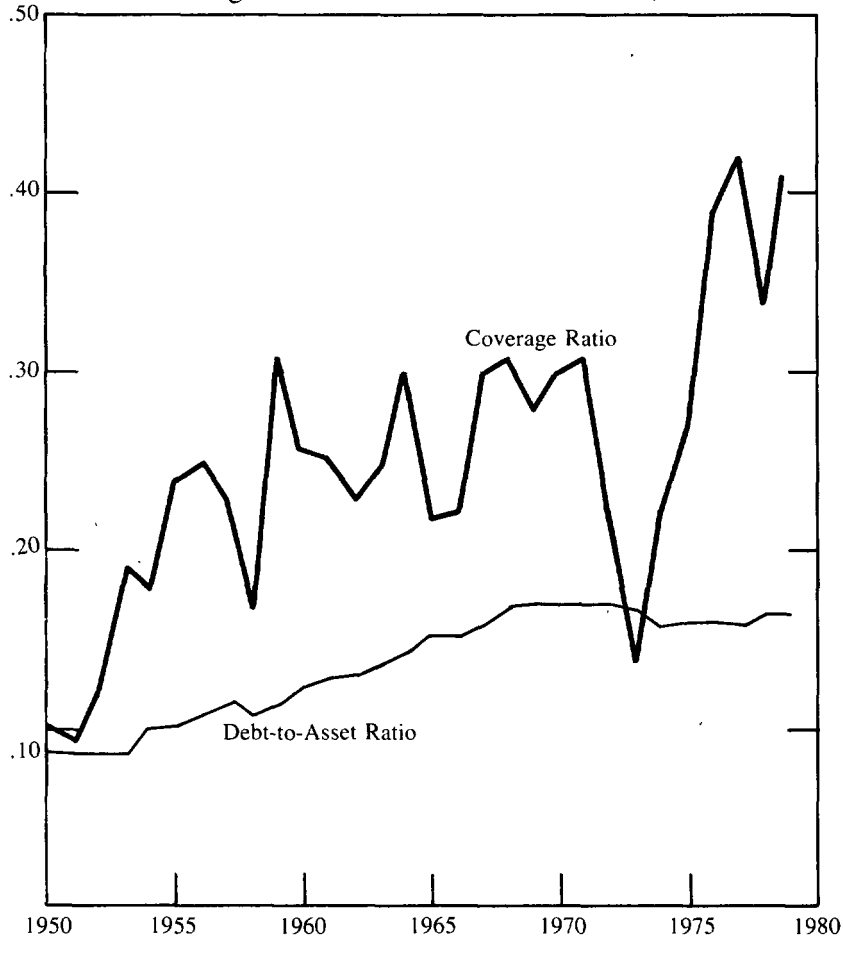
The D/A ratio has an upward trend from 1950 through the mid-1960s, followed by a relatively stable pattern in the last decade and a half. The recent stability of this ratio, together with rapid growth in farm debt, shows the important role of unrealized capital gains on farm assets, especially for farmland, in collateralizing the growth in farm debt and providing most of the sector's growth in equity capital. The ratio gives the appearance of a highly solvent farm industry, but it implies nothing about the liquidity pressures of meeting debt obligations from farm income flows.

The interest-to-asset-return ratio gives insight into the financial risks associated with meeting farm debt obligations from annual income flows. As Chart 1 shows, the i/r ratio is higher than the D/A ratio and has increased sharply in recent years, showing the higher proportion of farmers' current returns to assets that are claimed by lenders. The increase in the i/r ratio is due to the combined effects of greater debt use, higher interest rates, and a higher proportion of returns to farm assets occurring as capital gains. The i/r ratio also is more volatile than the D/A ratio due to year-to-year variability in farmers' current returns and interest rates. This ratio excludes returns from nonfarm income, just as the stock measure excludes portions of farmers' nonfarm investments; hence, additional funds from those sources may be available for debt servicing.

It is well known that use of farm debt is concentrated in larger farming operations. As Table 3 shows, in 1978, U.S. farms with sales

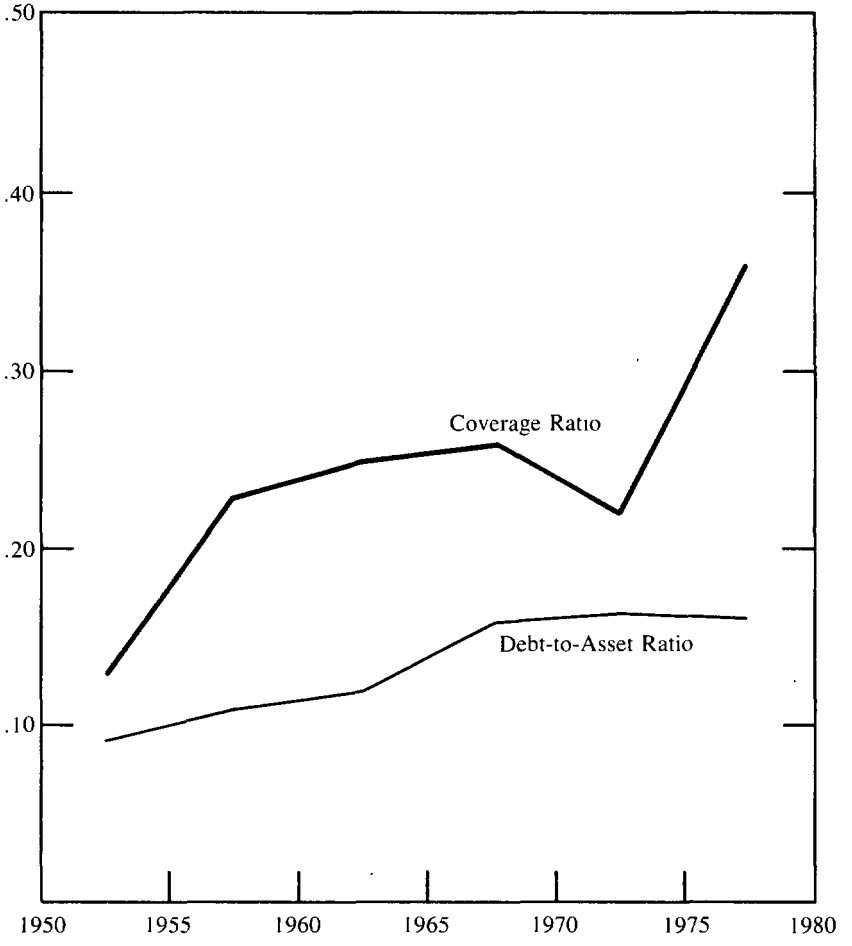
CHART 1

Annual Coverage Ratios and Debt-to-Asset Ratios, 1950-1980



over $100,000 comprised only 7 per cent of the total number of farms (about 185,000 farms) but held 30.5 per cent of farm assets, 41.2 per cent of farm debt, and 28.3 per cent of equity, generated 36.5 per cent of farm income, and earned less than 6 per cent of total nonfarm income in the farm sector. The D/A ratio for these largest farms is estimated as 22.7 per cent for January 1, 1978, compared to a sector average of 16.7 per cent. Other D/A measures come from loan records of farmers who borrow from the Farm Credit System. These data reflect farmers who are actual borrowers, whereas the USDA

CHART 2
Coverage Ratios and Debt-to-Asset Ratios, 5 Year Averages, 1950-1980



data include non-borrowers. **As** examples, Federal Land Bank borrowers in 1978 show an average D/A ratio of .344 for all borrowers, and an average D/A ratio of .422 for young farmers. Similarly, data from the Federal Intermediate Credit Bank of St. Louis for 1979 show an average D/A ratio of .305 for all borrowers, .420 for borrowers under age 35, and .396 for borrowers with loans above $100,000.

These characteristics of debt use, expecially the concentration in larger operations, indicate that. borrowing by farmers has become more aggressive, more sophisticated, more permanent, and more

TABLE **3**

Distribution of Farm Income and Balance Sheet by Farm Sales Class

(Balance Sheet — January 1, 1979; Income — Calendar 1978)

Farm Sales Class	*Number of Farms*	*Assets*	*Liabilitres*	*Equity*	*Farm Income*	*Non-Farm Income*	*Total Income All Sources*
				Percent			
$100,000 and over	7.0	30.5	41.2	28.3	36.5	5.90	19.3
40,000-99,999	14.6	26.0	29.2	25.3	31.5	7.80	18.2
20,000-39,999	12.1	12.9	12.2	13.0	14.2	7.40	10.3
10,000-19,999	11.1	8.0	7.2	8.2	6.5	8.70	7.7
5,000- 9,999	10.5	5.6	3.1	6.1	3.4	11.10	7.8
2,500- 4,999	10.4	14.7	2.5	5.2	2.0	13.10	8.3
Under 2,500	34.3	12.3	4.6	13.9	5.9	46.00	28.4
All **Farms**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.00**	**100.0**
				Amounts'			
	Thousands	**$ Bil**	**$ Bil**	**$ Bil**	$ Mil	$ Mil	$ Mil
All **Farms**	**2,672**	**690.7**	**119.3**	**571.4**	**26.8**	**34.30**	**61.1**

'Ratios: Debt/Asset 0.17
Debt/Farm Income 4.45
Debt/Total Income 1.95

complex in credit evaluations. There are greater concerns about managed leverage, safe debt loads, and integration of effective risk management into overall farm management. There is a prevailing view [e.g., Boehlje and Griffin] that larger farms may benefit from government's more active role as a risk bearer through bidding advantages for land, greater financial capacity for growth, and greater debt servicing capacity. However, these larger, expanding, more highly leveraged operations also become the most vulnerable to risks — and eventually need, or at least seek, public assistance the most. There also is much concern about the effects of inflation on farmers' wealth, income, and liquidity. Recent analyses [Melichar; Tweeten; Boehlje] show that growth in farmers' real income, attributed in part to public policies, makes a higher proportion of farmers' total return occur as capital gains on land relative to current income, with strong liquidity pressures resulting for highly leveraged investors.

Suppliers of Farm Debt

Tables 4 through 7 show the level and market share of total farm debt, non-real estate debt, and real estate debt, respectively, held by the major lending groups: Farm Credit System (FCS), commercial banks, life insurance companies, U.S. government lending agencies, and individuals and others. The first four are considered financial institutions because they either specialize in lending or have specialized loan programs for farmers. Individuals and others include trade firms, sellers of farm real estate, and lending institutions like savings and loan associations or credit unions with minor involvement in farm lending. Each of these groups has experienced different responses to various market forces, institutional developments, and regulatory changes that influence their market shares of farm debt during the 1950-1980 period.

The Farm Credit System's level and share of farm debt experienced steady growth over this time period so that FCS now is regarded as the dominant lender in farm credit markets. Lending by Federal Land Banks, in particular, increased sharply in response to the liberalization of lending authority in the 1971 Farm Credit Act. They now are the most important supplier of farm real estate debt, showing a market share of 36.1 per cent in 1980. Moreover, Farm Credit Administration data on loan purposes indicate that nearly half of the loans made

by FLB's are for refinancing farmers' previous debts, in part as a basis for farm expansion and also to relieve financial stress in times of insufficient cash flows. Production Credit Associations also exhibited steady growth in their share of non-real estate debt until the late 1970s when it declined from a high of 27.1 per cent in 1976 to 24.3 per cent in 1980. While less than the market share and total growth of farm lending by commercial banks, PCA lending has experienced more rapid growth in recent years than bank lending.

Life insurance companies have long supplied considerable long-term debt to farmers. But their market share declined substantially through the late 1960s and most of the 1970s. The decline is attributed to competing uses for life insurance company funds, to increased demand for loans from policy holders, and to usury limits on interest rates in many states that became effective during periods of tight credit and rising market rates.

Data on trade financing from merchants and dealers are less precise than data for institutional lenders; however, the role of trade financing has declined greatly since the late 1960s. Reasons for the decline include increases in trade firms' costs of providing credit services to customers, farmers' preference for borrowing from more specialized lenders, and growth in farm lending by FCS and commercial banks. In contrast, long-term financing supplied by individuals, especially sellers of farmland, has maintained a high, steady market share until declining sharply in the 1979-1980 period.

Farm lending by the U.S. government takes several forms. One consists of nonrecourse price support loans and crop storage loans made by the Commodity Credit Corporation as part of the government's price and income policies for farmers. These loans were high during the 1940s and 1950s. Then they began to decline, as government programs were modified to allow greater movement of commodity prices, and to reflect the use of direct payments as a means of income transfers for farmers. CCC lending now fluctuates with changes in farmers' income. It also increased in the late 1970s in response to implementation of a long-term grain reserve.

The Farmers Home Administration (FmHA) — and, since 1977, the Small Business Administration — have accounted for most of the recent increases in government agency lending to farmers. As Gary Benjamin points out, the share of institutionally held non-real estate debt owed to the FmHA and the SBA increased from 3.5 per cent in 1975 to more than 17 per cent in 1980. This is the largest share for

FmHA since the 1940s. When combined with CCC debt, the three government agencies have nearly 25 per cent of all non-real estate farm debt owed to institutional lenders at the beginning of 1980, up from below 5 per cent in 1975. When debt from individuals and others is added, the government's share of total non-real estate farm debt exceeds 20 per cent.

FmHA's lending to farmers occurs through direct loan programs, guarantees of farm loans made and serviced by commercial lenders, and various emergency loan programs. The recent increase in FmHA lending partially reflects the Economic Emergency Lending Program, which was authorized by the Emergency Agricultural Credit Act of 1978 and extended in 1980. Unanticipated shortages in availability of loan funds at reasonable rates from farmers' current lenders is one of the eligibility requirements for the emergency loan program. Hence, during this recent period, government's role as a liquidity provider to farmers may have supplanted credit normally supplied by commercial lenders, especially agricultural banks. Moreover, the increased role of government lending also has occurred at times in which farm income, although variable, has been high, and appreciation in land values has been substantial [Benjamin].

The extent of commercial bank involvement in farm lending is shown by their share of farm debt relative to other lenders and by the distribution of farm debt among various banks. Over the long term, commercial banks' shares of farm debt have been high, although subject to periodic fluctuation, especially in non-real estate debt. Table 5 shows that banks' share of total farm debt reached a post-war high of 28.2 per cent in 1952, then declined to the 24-26 per cent range through the next decade before rising to another peak of 30.5 per cent in 1974. Their proportion of total farm debt then declined sharply to reach 25.2 per cent in 1980.

Banks' share of farm real estate debt is comparatively minor, amounting to around 12 per cent during the 1960s and 1970s, and then declining to 10.5 per cent in 1980. Their share of non-real estate debt is larger and more volatile. Table 6 shows that banks' share of total non-real estate farm debt experienced a gradually increasing pattern beginning in the mid-1950s and reached above 50 per cent in the mid-1970s. Following 1977, however, banks' market share declined sharply to 41.3 per cent in 1980—a level more comparable to the late 1960s.

TABLE **4A**

Nonreal Estate Farm Debt Outstanding, January 1

	Production Credit Associations		*Other Financing Institutions*		*Commercial Banks*		*Individuals and Others*		*Fartners Home Administration*		*Commodity Credit Corporation*		*Total*
	$ million	%	$ *million*	%	$ *million*	%	$ *million*	%	$ *million*	%	$ *million*	%	$ *million*
1950	387	5.6	51	0.7	2,049	29.8	2,320	33.7	347	5.0	1,721	25.0	6,875
1955	577	6.1	58	0.6	2,934	31.2	3,210	34.1	417	4.4	2,219	23.6	9,415
1960	1,361	10.7	90	0.7	4,819	38.0	4,860	38.3	398	3.1	1,165	9.2	12,693
1965	2,277	12.7	125	0.7	6,990	39.0	6,330	35.3	644	3.6	1,543	8.6	17,909
1970	4,495	18.9	218	0.9	10,330	43.3	5,340	22.4	785	3.3	2,676	11.2	23,844
1975	9,519	26.8	374	1.1	18,238	51.3	6,050	17.0	1,044	2.9	319	0.9	35,544
1980	18,323	24.4	666	0.9	31,034	41.3	11,720	15.6	8,892	11.9	4,500	6.0	75,225

TABLE 4B

Real Estate Farm Debt, Outstanding, January 1

	Federal Land Banks		Life Insurance Companies		Commercial Bank		Farmers Home Administration		Individuals and others		Total
	$ million	%	$ million	%	$ million	%	$ million	%	$ million	%	$ million
1950	965	17.3	1,172	21.0	932	16.7	202	3.6	2,303	41.4	5,579
1955	1,280	15.5	2,052	24.9	1,161	14.1	379	4.6	3,374	40.9	8,245
1960	2,335	19.2	2,820	23.1	1,523	12.5	676	5.5	4,828	39.6	12,182
1965	3,687	19.5	4,288	22.7	2,417	12.8	1,285	6.8	7,218	38.2	18,895
1970	6,671	22.9	5,734	19.6	3,545	12.1	2,280	7.8	10,953	37 5	29,183
1975	13,402	29.0	6,297	16.6	5,966	12.9	3,215	6.9	17,408	37.6	46,288
1980	29,642	36.1	12,165	14.8	8,623	10.5	6,556	8.0	25,137	30.6	82,123

TABLE 5
Total Farm Debt Outstanding, All Lenders, Market Shares, 1950-1980

	Total Debt	*FCS*	*Comm. Banks*	*Life Ins. Co.*	*FmHA*	*Comm. Cr. Corp.*	*Indiv. & Others*
	$1,000	%	%	%	%	%	$
1950	12,454	11.3	23.9	9.4	4.4	13.8	37.2
1951	13,051	11.5	26.9	10.4	4.5	6.2	40.5
1952	14,644	11.4	28.3	10.5	4.1	4.0	41.8
1953	16,099	11.0	26.5	10.7	4.1	7.4	40.3
1954	16,934	10.6	22.8	11.2	4.3	14.1	37.1
1955	17,660	10.8	23.2	11.6	4.5	12.6	37.3
1956	18,792	11.6	24.4	12.1	4.4	10.0	37.6
1957	19,345	12.8	23.7	12.8	4.6	8.1	38.0
1958	20,412	14.0	24.1	12.6	4.8	6.0	38.6
1959	23,649	13.8	23.5	11.3	4.3	10.5	36.7
1960	24,775	15.3	25.6	11.4	4.3	4.7	38.7
1961	26,180	15.7	25.1	11.4	4.4	5.3	38.1
1962	28,466	16.0	24.4	11.1	5.1	6.6	36.9
1963	31,386	15.8	25.0	10.8	5.1	6.5	36.7
1964	34,387	16.0	25.6	11.0	5.1	5.6	36.7
1965	36,804	16.5	25.6	11.7	5.2	4.2	36.8
1966	40,656	17.1	25.3	11.8	5.4	3.5	36.9
1967	44,029	18.4	25.7	11.8	5.5	2.6	36.0
1968	47,397	19.5	26.0	11.7	5.6	3.0	34.2
1969	50.455	20.0	25.9	11.4	5.7	5.3	31.7
1970	53,027	21.5	26.2	10.8	5.8	5.0	30.7
1971	54,483	23.2	27.3	10.3	5.9	3.4	29.8
1972	59,113	24.0	28.3	9.4	5.7	3.8	28.7
1973	65,344	24.3	29.2	8.6	5.5	2.7	29.5
1974	74,136	25.7	30.5	8.0	5.2	1.0	29.5
1975	81,832	28.5	29.6	7.7	5.2	0.4	28.7
1976	90,832	29.5	29.1	7.4	5.7	0.4	27.6
1977	102,663	30.3	29.3	7.2	5.4	1.0	26.9
1978	119,272	29.6	28.1	7.4	6.0	3.8	25.2
1979	137,499	29.2	26.8	7.4	7.2	3.8	25.6
1980	157.323	30.9	25.2		9.9	2 9	23.4

TABLE 6
Nonreal Estate Farm Debt Outstanding, **All** Lenders, Market Shares, 1950-1980

	Total Debt	*PCAs*	*FICB*	*Comm. Bunks*	*FmHA*	*Cornm. Cr. Corp.*	*Indiv. & Others*
	$1,000	%	%	%	%	%	%
1950	6,875	5.6	0.7	29.8	5.0	25.0	33.7
1951	6,938	6.5	0.9	36.4	4.7	11.7	39.8
1952	7,981	7 0	1.0	39.1	3.8	7.4	41.7
1953	8,859	6.8	0.9	36.1	3.8	13.4	39.1
1954	9,194	5.9	0.7	30.1	4.1	26.0	33.3
1955	9,415	6.1	0.6	31.2	4.4	23.6	34.1
1956	9,780	6.6	0.6	33.8	4.2	19.1	35.7
1957	9,523	7.3	0.6	34.4	4.5	16.4	36.6
1958	10,029	8.8	0.7	35.9	4.3	12.1	38.1
1959	12,558	8.9	0.7	33.1	3.2	19.7	34.4
1960	12,693	10.7	0.7	38.0	3.1	9.2	38.3
1961	13,359	11.1	0.7	37.4	3.1	10.4	37.4
1962	14,567	11.3	0.7	36.5	3.4	12.8	35.4
1963	16,219	11.3	0.7	36.9	3.4	12.7	35.0
1964	17,853	12.0	0.7	37.8	3 4	11.0	35.1
1965	17,909	12.7	0.7	39.0	3.6	8.6	35.3
1966	19,470	13.2	0.7	39.4	3.7	7.2	35.7
1967	20,951	14.4	0.7	40.7	3.5	5.5	35.1
1968	22,254	15.8	0.8	41.7	3.6	6.4	31.8
1969	23,058	16.6	0.8	42.2	3.6	11.6	25.3
1970	23,844	18.9	0.9	43.3	3.3	11.2	22.4
1971	24,138	21.9	0.9	46.0	3.3	7.8	20.1
1972	26,906	22.6	0.9	46.5	2.9	8.4	18.8
1973	29,587	22.3	0.8	48.4	2.6	6.1	19.7
1974	32,884	23.8	1.0	52.2	2.7	2.3	18.0
1975	35,544	26.8	1.1	51.3	2.9	0.9	17.0
1976	39,763	27.1	0.9	50.7	4.5	0.9	16.0
1977	46,073	26.6	0.8	50.5	4.1	2.2	15.8
1978	55,631	24.3	0.7	46.2	5.6	8.1	15.1
1979	65,267	23.0	0.8	43.3	8.9	8.0	16.0
1980	75,200	24.3	0.9	41.3	11.9	6.0	15.6

Table 7 excludes loans from individuals and others to show non-real estate farm debt held by institutional lenders. Here, the fluctuations in commercial banks' shares are more pronounced. The 1960s, for example, show a decline in banks' share of institutionally held non-real estate debt in the first half of the decade, followed by an increasing pattern in the second half of the decade until a sharp drop occurred in 1969, perhaps a reflection of the 1969-70 credit crunch. Banks' share rose again to a 1974 high, a period of record-high farm incomes. Banks' share of this debt then declined, with sharp drops occurring in the 1978-1980 period. These fluctuations appear closely correlated with changes in shares held by government agencies. Hence, problems in credit availability at rural banks, in periods of tight money and adverse farm income that hamper loan repayments and deposit growth, are important factors explaining periodic declines in banks' market shares. More liberal lending authority for FmHA (and SBA) through economic emergency programs has further stimulated the recent decline in banks' market shares.

Substantial differences in banks' share of farm debt also occur among states and regions [Barry and Lins]. For non-real estate debt, banks' highest market shares occur in the Northern and Southern Plains regions and in the central Corn Belt; lowest shares occur in the Appalachian and Southeastern regions. For farm real estate debt, highest market shares occur in the Appalachian and Northeastern regions. Lowest shares are in the Mountain and Pacific regions.

Among banks, the distribution of farm debt is strongly influenced by bank size, location, specialization, and type of branching. Money center banks generally finance larger operations, usually those involved in livestock or poultry production [Vasco; Harmon]. This type of financing is not restricted to local markets and may encompass the entire United States. Money center banks in states with liberal branching laws may also serve both large and small farming operations. These banks are further involved in agriculture by financing agribusinesses and international trade, and through loan participations with regional and community banks [Minger].

Regional banks also provide direct loans to large agricultural operations and agribusinesses and loan participations with smaller banks. In fact, when banks are ranked by volume of agricultural loans, most of the top 50 or so banks are in large cities even though their farm lending is small relative to other lending activities. Most heavily involved in farm lending are smaller, community-oriented

TABLE 7
Nonreal Estate Farm Debt Outstanding, Institutional Lenders, Market Shares (1958-1980)

				Government Agencies		
	PCAs	FICB	Comm. Bnnk	Total	FmHA	Com. Cr. Corp.
	%	%	%	%	%	%
1950	8.5	1.1	45.0	45.4	7.6	37.8
1951	10.8	1.5	60.4	27.3	7.9	19.4
1952	12.1	1.7	67.1	19.1	6.5	12.6
1953	11.1	1.5	59.2	28.2	6.3	21.9
1954	8.8	1.0	45.0	45.1	6.1	39.0
1955	9.3	0.9	47.3	42.5	6.7	35.8
1956	10.2	1.0	52.6	36.2	6.5	29.7
1957	11.6	1.0	54.4	33.0	7.1	25.9
1958	14.3	1.1	58.1	26.6	7.0	19.6
1959	13.5	1.0	50.5	34.9	4.9	30.0
1960	17.4	1.1	61.5	20.0	5.1	14.9
1961	17.7	1.1	59.6	21.6	5 0	16.6
1962	17.4	1.1	56.5	25.1	5.3	19.8
1963	17.4	1.0	56.7	24.9	5.3	19.6
1964	18.5	1.1	58.3	22.1	5.2	16.9
1965	19.7	1.1	60.4	18.9	5.6	13.3
1966	20.6	1.1	61.3	17.9	5.7	11.2
1967	22 2	1.2	62.7	13.9	5.4	8.5
1968	23.2	1.2	61.1	14.7	5.3	9.4
1969	22.2	1.0	56.5	20.3	4.8	15.5
1970	24.3	1.2	55.8	18 7	4.2	14.5
1971	27.5	1.1	57.6	13.8	4.1	9.7
1972	27.8	1.1	57.2	13.9	3.5	10.4
1973	27.8	1.1	60.3	10.9	3.3	7.6
1974	29.0	1.2	63.7	6.1	3.3	2.8
1975	32.3	1.3	61.8	4.6	3.5	1.1
1976	32.2	1.0	60.3	6.4	5.3	1.1
1977	31.6	0.9	60 0	7.4	4.8	2.6
1978	28.2	0.8	53.6	16.5*	6.6	9.4
1979	26.6	0.9	50.0	22.5*	10.2	9.3
1980	27.8	1.0	47.1	24.1*	13.6	6.8

*Includes small business administration loans.

banks located in rural areas.

Closely related to bank size is the type of branching. As of January 1, 1979, only 12 states required unit banking operations, 17 states permitted limited branching, and 21 states permitted statewide branching. Most unit banking states are located in the strong commercial agricultural areas of the Midwest and Plains regions. Hence, they experience considerable involvement in farm lending. As Table 8 shows, banks in the 12 unit banking states account for nearly half of all non-real estate loans held by banks and about a third of all farm real estate loans held by banks. Banks in unit and limited branching states together account for about 80 per cent of all non-real estate loans held by banks. Unit banking states also generated about 36 per cent of **U.S.** total gross farm income in 1978 and accounted for about 42 per cent of the total value of all **U.S.** farm assets.

TABLE 8
Farm Debt, Gross Income, and Farm Assets
by Bank Structure, January 1, 1979

	Unit Bunking States	*Limited Branching States*	*Statewide Branching*
Number of States	12	17	21
Nonreal Estate Farm Debt			
$ million	13,907	8,501	5,865
Percent of total, %	49.2	30.1	20.7
Farm Real Estate Debt			
$ million	2,718	4,760	1,078
Percent of total, %	31.8	55.6	12.6
Total Gross Farm Income			
$ million	45,616	46,759	32.539
Percent of total, %	36.5	37.4	20.0
Farm Assets			
$ million	342,059	309,252	168,841
Percent of total, %	41.7	37.7	20.6

Issues in Agricultural Banking

The prominence of unit banking states in farm lending means that much farm lending is concentrated in smaller rural banks at which farm income trends significantly affect loan and deposit conditions. Melichar's analysis [1977] shows that about one-third of all commercial banks have a ratio of total farm loans to total loans that exceeds 0.25. These agricultural banks account for over half of all farm loans at commercial banks. In Illinois, for example, there were 410 agricultural banks in mid-1978 out of a total of 1,251 banks in the state. These banks held about two-thirds of the total farm debt owed to institutional lenders in Illinois and averaged $16.65 million in total assets, with nearly all these agricultural banks having total assets of less than $50 million [Barry and Hakesl.

The liquidity of agricultural banks is of much interest at times, due to their substantial involvement in farm lending and their heavy reliance on local markets for sources of funds. They rely on local markets for attracting deposits as the major source of'loanable funds, and have experienced periodic disintermediation problems as deposit funds subject to legal interest rate limits were allocated to other investments in periods of rising interest rates. These banks also are especially vulnerable to changes in farm and farm-related financial conditions in their local areas that influence loan demand, loan repayment, and deposit activity. Combined effects of these conditions have caused periodic stresses in bank liquidity and relatively high fluctuation in availability of loan funds for farmers.

Federal Reserve data show that average loan-deposit ratios in these agricultural banks generally are less than those of other banks but increased to record levels in the late 1970s. As indicated by Melichar [1980], after remaining relatively insensitive to restrictive monetary policies in the 1969-1970 and 1973-1974 periods, L/D ratios of agricultural banks rose sharply during the low-farm income years of 1976 and 1977 as rapid loan expansion continued while rates of deposit growth and loan repayment declined. Then, as farm income improved, L/D ratios at these banks rose more slowly in 1978 and leveled off in 1979, even as ratios at large nonagricultural banks were rising sharply. L/D ratios for all banks then declined from mid-1979 peaks to lower levels in 1980.

Further evidence about liquidity of agricultural banks is reflected in their responses to surveys about farm lending conditions. Results from surveyed banks in the Seventh Federal Reserve District

(Chicago) show, for example, much disparity between trends in farm loan demand and fund availability in the 1970s. Farm loan demand showed consistent growth. In contrast, the trend in fund availability showed much more variation, including several periods of substantial decline in the late 1970s.

Agricultural banks in unit banking states also experience problems meeting larger farm loan requests that exceed the banks' legal lending limit to individual customers. Benjamin points out that growth in legal lending limits of banks in several Midwestern states has failed to keep pace with growth in farmers' credit needs. A recent survey showed, for example, that more than half the agricultural banks in the Chicago district experienced more farm customers with credit needs exceeding the banks' lending limit than five years ago. These banks must develop loan participations with other lenders for these customers, or risk losing their business.

Bankers also contend that problems in fund availability occur from increasing competition for deposit funds in rural areas. Detailed data about flows of funds in rural financial markets have not been compiled. However, national data on market shares of deposits held by major institutional sources are shown in Table 9. Long-term trends indicate that market shares for savings and loan associations, and to a much lesser extent for credit unions, have been growing. Moreover, in recent years the share held by money market mutual funds grew considerably. Commercial banks' combined share of demand and time deposits declined from nearly 80 per cent in 1950 to less than 60 per cent in 1980. Moreover, the mix of banks' share shifted strongly to time and savings deposits, especially those of larger denomination. While inferences from these aggregate deposit patterns to deposit flows in rural financial markets are limited, the data are consistent with concerns expressed by many agricultural bankers about competition for funds in local markets.

The Setting for the 1980s

The beginning of the 1980s is a crucial period for farm credit markets and for the role of commercial banks in financing U.S. agriculture. Preceding sections have shown the changing patterns of debt use and financial structure in the farm sector, the broad patterns of change in roles of major farm lenders, and the unique characteristics of agricultural banks. However, tracing these patterns of change

TABLE 9

U.S. Deposit Data for Commercial Banks, Thrift Institutions and Money Market Funds

	1950		*1955*		*1960*		*1965*		*1970*		*1975*		*1978*		*1980*	
	$Billion	%	*$Billion*	%	*$Billion*	%	*$Billion*	%	*$Billion*	%	*$Billion*	%	*$Billion*	%	*$Billion*	%
Commercial Banks																
Demand Deposits	93.4	56.6	110.2	49.4	118.4	40.2	139.4	30.4	175.8	27.4	228.	20.4	261.5	17.3	270.9	16.4
Time Deposits	36.8	22.3	50.0	22.4	72.9	24.7	146.6	32.0	233.1	36.3	455.5	40.8	615.6	40.6	660.2	39.9
Large negotiable CD's	0		0		1.1	0.4	16.2	3.5	26.1	4.1	82.9	7.4	100.0	6.6	NA	
Large	NA		NA		4.1	1.4	11.9	2.6	29.1	4.5	75.5	6.8	108.4	7.2	NA	
Small	NA		NA		67.4	22.9	118.0	25.8	176.5	27.5	289.2	25.9	390.3	25.8	NA	
Savings & Loan Associations	14.0	8.5	32.1	14.4	62.1	21.1	110.4	24.1	146.4	22.8	285.7	25.6	431.0	28.5	472.1	28.6
Mutual Savings Banks	20.0	12.2	28.2	12.7	36.3	12.3	52.4	11.5	71.6	11.1	109.9	9.8	142.6	9.4	1458	8.8
Credit Unions	.7	0.4	2.4	1.1	5.0	1.7	9.2	2.0	15.5	2.4	33.0	3.0	53.0	3.5	55.4	3.3
Money Market Funds	.0	0.0	0	0	0	0	0	0	0	0	3.7	0.3	10.8	0.7	49.1	3.0
Total	164.9		222.9		294.7		458.0		642.4		1115.9		1514.5		1653.5	

Source: Federal Reserve Bulletin and Flow of Funds Accounts, Board of Governors of the Federal Reserve System.

Year-end data, except for 1980 (January)

through to the 1980s is not a straightforward process due to the strengthening interrelationships among numerous forces in the farm sector, financial markets, the general economy, and government policies. As later projections will show, combined effects of these forces can strongly influence the rates of growth and composition of future capital and credit needs in the farm sector, as well as the roles of major farm lending groups.

The 1980s are beginning with anticipation of high variability of farm income, especially from uncertainties about export demand for farm products and about the impact of energy and transportation issues on financial performance of the farm sector. Further consolidation of farm units into fewer operations of larger size is anticipated, with an increasing dichotomy between financing needs of larger, more specialized farming operations, and smaller ones that rely heavily on off-farm sources of income. In the national economy, there are uncertainties about how energy, transportation, employment, and efforts to control an unacceptably high rate of inflation will affect financial conditions in the farm sector and economic growth of the U.S. and other countries. In public policy, there are uncertainties about future directions of government price, income, and credit programs for farmers, and whether these programs will maintain a high or low profile in farm credit markets.

In financial markets, the conditions of 1979-80 likely are the most severe of the last two decades, with interest rates reaching record levels and showing much variability. Loan-deposit ratios in agricultural banks increased sharply in the 1970s, as did banks' problems in meeting large loan requests that exceed legal lending limits. The distribution of farm credit among major lenders has been characterized by steady growth in lending by the Farm Credit System, fluctuation of market shares for banks and government lenders in response to changes in farm income and financial market conditions, and declining market shares of other lenders. Competition for savings funds in rural financial markets has increased, and savers appear much more cognizant of yield, liquidity, and risk differentials.

Finally, massive changes are occurring in the regulatory environment for financial institutions that have profound implications for the cost and availability of funds, the profitability, and the competitive position of agricultural banks. As a result, there is much concern about the ability of the commercial banking system to sustain its past pattern of involvement in farm lending—that is, its heavy reliance on

farm lending by smaller unit banks located in rural areas. These factors increase the importance of forward-looking analyses but bring greater complexities into the projection process as well.

Future Farm Credit Demands

The task of projecting capital and credit needs in the farm sector has benefited greatly from previous analytical work in modeling flows of funds. A review article by John R. Brake and E. O. Melichar —two major participants in flow-of-funds modeling—highlights the early developments and subsequent refinements, and demonstrates the sensitivity of projections to important assumptions and estimates of relationships among key variables. The U.S. Department of Agriculture's flow-of-funds project, based on efforts of J. B. Penson, D. A. Lins, and G. D. Irwin, contributed significantly to development of projection methods that have served as the basis of USDA's agricultural finance outlook, as well as providing many insights into important determinants of flows of funds and financial performance in the farm sector.

The projections presented here come from two recent projects by finance economists in the Farm Credit Administration (FCA) and the U.S. Department of Agriculture. Both sets of projections result from substantial efforts in sector modeling, analysis, and judgment by the analysts involved. Their numerical results provide valuable insight into how capital and credit needs of the farm sector during the 1980s may respond to various developments in the national economy, in the farm sector, and in U.S. government policy.

The approach followed here is to briefly review the key assumptions and general lines of analysis for each model and to show some of their numerical results. Neither time nor sufficient information are available to document each model's specification or to critique the analytical procedures. The models differ in choice of variables, functional forms, estimation procedures, length of horizon, time paths of variables and performance measures, and scenario characteristics. Hence, each model's projections are treated independently and show ranges of possible debt levels for the various scenarios. The accompanying tables jointly present each model's baseline projection, and then show projections for each scenario.

FCA's "Project 85" under the direction of John Moore and George Irwin provides a comprehensive assessment of the Farm

Credit System's operating environment at the midpoint of the 1980s. An important part of the project was the projection of farm sector performance and related credit needs using econometric models of Data Resources, Inc. Three scenarios reflect a range of possible sector outcomes for three key variables: a) general inflation rate, b) real rate of national economic growth, and c) rate of growth of agricultural exports.

The baseline scenario is the best estimate of the 1985 environment based on events that can reasonably be expected to occur. The economy is growing at,a 3 per cent annual rate at yearend 1985, the annual inflation rate is 8 per cent, and agricultural exports are growing at 5 per cent annually. A less optimistic scenario, called "high inflation," assumes relatively high inflation (12 per cent annually), slower real economic growth (2 per cent annually), and strong growth of agricultural exports (8 per cent annually). The third scenario, called "low inflation," combines assumptions of low inflation (6 per cent annually) and high national growth (4 per cent- annually) with zero growth of agricultural exports.

These FCA scenarios represent the general pattern of the years from the beginning of the 1980s through yearend 1985. Thus, looking back from the second half of the decade, 1980 could be an average year in the high inflation scenario, a high-inflation year in the baseline, or a breaking year moving toward the low-inflation scenario. Each scenario asks "What if" these general conditions prevail most of the time for the next five years.

FCA projections of the balance sheet and net income for the farm sector are shown in Table 10 for the baseline scenario and in Table 11 for all three. Actual figures for yearend 1979 are included. Changes in balance sheet figures are shown as average annual compound rates of growth over the 1980-85 period.

Total farm debt is projected to grow at a slower rate in the early 1980s than occurred in the second half of the 1970s. For the baseline, the projected annual growth rate for total debt is 9.3 per cent, reaching a total of $275 billion by yearend 1985. The slower growth in debt apparently is attributed to assumptions of lower inflation and lower real farm income for 1985 than occurred in the later 1970s. Lower inflation rates in turn lower the growth rates for costs of operating exports and capital items, especially land values. As in the later 1970s, non-real estate farm debt continues to experience faster growth than real estate debt.

TABLE 10
Financial Projections for Baseline Services, Farm Credit Administration (FCA) and General Equilibrium Model (GEM)

		FCA		GEM			
	1979 Dec. 31	1985 Dec. 31	1980-1985 Average Annual Growth Rate	1985	1990	1980-1985 Average Annual Growth Rate	1980-1990 Average Annual Growth Rare
	$ Billion	$Billion	%	$ Billion	$ Billion	%	%
Farm Sector Assets							
Real Estate	696	1,297	10.9	1,379	2,941	12.1	14.0
Non Real Estate	213	352	8.7	335	484	7.8	7.8
Financial	41	41	0	57	68	5.6	4.7
Total	950	1,690	10.1	1,771	3,493	10.9	12.6
Farm Sector Debt							
Real Estate	85	141	8.8	177	272	13.0	11.2
Non Real Estate	76	134	9.9	164	25	13.7	11.5
Total	161	275	9.3	341	523	13.3	11.3
Farm Sector Net Worth	789	1,415	10.2	1,430	2,970	10.4	12.8
Debt to Asset Ratio	.169	.163		.193	.150		
			Annual Average			Annual Average	Annual Average
Net Farm Income	NA	48.3	42.9	33.9	85.0	28 7	44.9

TABLE 11

Financial Projections for Alternative Scenarios, Farm Credit Administration

		Baseline		*Low Inflation No Export Grmvrh*		*High Inflation Strong Exports*	
	1979 Dec. 31	*1985 Dec. 31*	*Average Annual Growth Rare*	*1985 Dec. 31*	*1980-1985 Averuge Annual Growth Rare*	*1985 Dec. 31*	*1980-1985 Average Annual Growth Rate*
	$ Billion	$ Billion	%	$ Billion	%	$ Billion	%
Farm Sector Assets							
Real Estate	696	1,297	10.9	775	1.8	2,553	24.2
Non Real Estate	213	352	8.7	284	4.9	449	13.2
Financial	41	41	0	51	3.7	23	−9.2
Total	950	1,690	10.1	1,110	2.6	3.025	21.3
Farm Sector Debt							
Real Estate	85	141	8.8	92	1.3	238	18.7
Non Real Estate	76	134	9.9	126	8.8	136	10.2
Total.	161	275	9.3	218	5.2	374	15.1
Farm Sector Net Worth	789	1,415	10.2	892	2.1	2,651	22.4
Debt to Asset Ratio	.169	.163		.196		.124	
			Annual Average				Annual Average
Net Farm Income	NA	48.3	42.9	34.3	31.1	68.3	50.7

The low-inflation scenario with no farm export growth projects total farm debt growing to only $218 billion in 1985 — an annual growth rate of 5.2 per cent. Most of the growth occurs in non-real estate debt; growth rates for both real estate assets and real estate debt decline to very low levels.

The high-inflation scenario with strong farm exports projects total farm debt increasing to $374 billion in 1985—an annual growth rate of 15.1 per cent. Compared to the baseline, most of the additional growth occurs in real estate debt due to combined effects of higher real net farm income, higher inflation, and higher land values. Offsetting the projected growth in real estate debt is even faster growth in real estate values. As a result, the D/A ratio for the farm sector in 1985 declines relative to its 1980 value and relative to its value in other scenarios.

In all three scenarios of the FCA models, non-real estate farm debt is projected to grow at about 9-10 per cent annually between 1980 and 1985 regardless of the values assumed for the general inflation rate, national economic growth, and agricultural export growth. Changes in debt use and farm financial structure for the scenarios occur primarily in the real estate components of the sector's balance sheet. Hence, the FCA model projects fairly steady annual growth of 9-10 per cent in loan demands for non-real estate lenders; these rates are considerably less than the growth rate for non-real estate debt that occurred in the late 1970s.

The second set of projections of capital and credit in the farm sector is based on results of a *General Equilibrium Model* (GEM) which is now used as the projection's mechanism in USDA's financial outlook activities [Hughes and Penson]. GEM includes supply and demand functions for goods in the national economy, using a general equilibrium theoretical structure. It projects values of many macro variables while focusing on financial projections for the farm sector. Hence, the model internalizes estimates on many variables and requires forecasts on a set of exogneous variables that include various government policies. Model results are reported as the balance sheet of the farm sector, farm income statistics, net flows of funds for the farm sector, and various macro-economic variables.

Scenarios reported here for GEM reflect assumptions of high and low rates of general inflation and high and low involvement of government in agriculture. The baseline assumes that monetary and fiscal policies will reduce inflation over the next ten years from

TABLE 12

Financial Projections for Alternative Scenarios, General Equilibrium Model

		Baseline				Low Inflation—Low Government Involvement			
	1979 Dec. 31	1985 Dec. 31	1990	1980-1985 Average Annual Growth Rate	1980-1990 Average Annual Growth Rate	1985	1990	1980-1985 Average Annual Growth Rate	1980-1990 Average Annual Growth Rate
	$ Billion	$ Billion	$ Billion	%	%	$ Billion	$ Billion	%	%
Farm Sector Assets									
Real Estate	696	1,379	2,941	12.1	14.0	1,378	2,938	12.1	14.0
Non Real Estate	213	335	484	7.8	7.8	323	435	7.2	6.7
Financial	41	57	68	5.6	4.7	57	69	5.6	4.8
Total	950	1,771	3,493	10.9	12.6	1,758	3,442	10.8	12.4
Farm Sector Debt									
Real Estate	85	177	272	13.0	11.2	178	281	13.1	11.5
Non Real Estate	76	164	251	13.7	11.5	164	250	13.7	11.4
Total	161	341	523	13.3	11.3	342	351	13.4	11.5
Farm Sector									
Net Worth	789	1,430	2,970	10.4	12.8	1,416	2,911	10.2	12.6
Debt to Asset Ratio	.169	.193	.150			.194	.154		
				Annual Avrg.	Annual Avrg.			Annual Avrg.	Annual Avrg.
Net Farm Income	NA	33.9	85.0	28.7	44.9	30.8	72.2	27.1	39.9

TABLE 12
(continued)

	High Inflation—Low Government Involvement				*High Inflation—High Government Involvement*			
	1985	*1990*	*1980-1985 Average Annual Growth Rate*	*1980-1990 Average Annual Growth Rate*	*1985*	*1990*	*1980-1985 Average Annual Growth Rate*	*1980-1990 Average Annual Growth Rate*
	$ Billion	$ Billion	%	%	$ Billion	$ Billion	%	%
Farm Sector Assets								
Real Estate	1,320	2,607	11.3	12.8	1,316	2,650	11.2	12.9
Non Real Estate	351	634	8.7	10.4	358	681	9.0	11.1
Financial	62	121	7.1	10.3	52	120	4.0	10.3
Total	1,733	3,362	10.5	12.2	1,735	3,451	10.6	12.4
Farm Sector Debt								
Real Estate	196	501	14.9	17.5	194	489	14.7	17.2
Non Real Estate	182	418	15.7	16.8	183	417	15.8	16.7
Total	378	919	15.3	17.2	377	906	15.2	17.0
Farm Sector Net Worth	1,356	2,443	9.4	10.8	1,359	2,545	9.5	11.2
Debt to Asset Ratio	.218	.273			217	262		
			Annual Average	Annual Average			Annual Average	Annual Average
Net Farm Income	22.3	3.2	24.4	21.3	18.2	15.0	23.4	24.4

double-digit rates in 1980 to about 5 per cent in 1990, and that the level of government involvement in agriculture will be similar to 1980 levels in constant dollar terms. A second scenario assumes reduced inflation and lower government involvement in agriculture. A third scenario assumes relatively high inflation throughout the 1980s with low government involvement in agriculture. The fourth scenario assumes high inflation and high government involvement.

GEM projections have a specified horizon (e.g., 10 years) with values of variables and performance measures reported for each year. For summary purposes, GEM results reported here include only yearend values for 1985 and 1990, and annual growth rates for the 1980-85 and 1980-90 periods.

The baseline projects relatively weak financial performance by the farm sector in the early 1980s followed by stronger growth in the second half of the decade. Strengthening occurs from the combined effects of greater stability in livestock earnings, higher incomes of domestic consumers, lower inflation rates, and relatively stable exports. Total farm debt is projected to grow at an 11.3 per cent annual rate over the decade, reaching $523 billion in 1990. Faster growth in debt (13.5 per cent annually) is projected for the first half of the decade, with total debt projected to reach $341 billion in 1985. Debt grows faster than net worth in the early 1980s, while the reverse pattern is occurring by 1990.

Farm real estate values continue to experience rapid growth in the baseline, especially in the second half of the 1980s, as a result of rapid growth in farmers' real income. In contrast, values of non-real estate assets experience relatively low growth (7.8 per cent annually) throughout the decade due to interactions between higher costs of energy and slower growth of investment in farm machinery and motor vehicles. Thus, growth rates projected in the baseline for non-real estate assets are considerably less than those for non-real estate debt.

Results for the scenario with low inflation and low government involvement are similar to the baseline results. However, the two high-inflation scenarios show much greater use of farm debt, as well as relatively low net farm income and slow net worth growth, especially in the second half of the 1980s. Moreover, when inflation rates remain high, the effect of government involvement is more important to farm income in the high involvement scenario, but relatively minor in both cases. In both of the high-inflation scenarios, total farm debt is projected to exceed $900 billion in 1990 with growth of debt ac-

celerating in the second half of the decade. Higher inflation also is associated with declining patterns of real farm income and values of farm real estate. Thus, farm debt experiences faster growth than farm assets, causing slower growth in the sector's net worth.

Table 13 summarizes projections of farm debt under alternative scenarios in both the FCA and the GEM models. The FCA baseline model projects a slower growth rate for non-real estate debt in the 1980-1985 period than does the GEM baseline. However, the GEM's projected growth rate for non-real estate debt declines in the 1985-1990 period. The FCA model also projects a slower growth rate for farm real estate debt than does GEM for the 1980-85 period, although real estate components in the FCA model appear more sensitive to characteristics of the various scenarios than do values of non-real estate components. Differences in the role of agricultural exports in both models have an important influence on the projections. Export growth is an exogenous variable in the FCA model and endogenous in the GEM model.

In evaluating the results of projection models like these, it is common and yet perplexing for both the projection process itself and the specific results to generate numerous new questions that need further study. Indeed, this is a proper role for projection analyses. Model builders must explain and defend their models' specifications and work toward developing a reasonable scenario, or set of scenarios, for analyzing future directions of the sector under study. Results then must be evaluated for that sector and implications considered for many features of the sector that defy effective modeling. Many of these features involve disaggregation of the aggregate results along the lines of various sub-sectors, transactors, structural characteristics, or other classification schemes. Moreover, these disaggregated questions often are highly relevant in policy formulation, private decision-making, measuring performance, and welfare analysis.

Hence, before focusing on suppliers of future farm debt, it is appropriate to consider some possible changes in future characteristics of the farm sector that could alter the pattern of these projections and further influence disaggregative analyses. It is likely, for example, that the farm sector will continue to experience reductions in the number of farms and growth in size of the remaining operations. A recent USDA study projects further decline in farm numbers from about 2.6 million in 1980 to 2.32 million in 1985 and 2.09 million in

TABLE 13
Summary of Farm Debt Projections for Alternative Scenarios, FCA and GEM Models

	Projections					*Historical*			
	1985	*1990*	*1980-1985*	*1980-1990*	*1970*	*1975*	*1980*	*1970-1980*	*1975-1980*
			Average Annual Growth Rates		*Jan. 1*			*Average Annual Growth Rates*	
	$Billion	$Billion	%	%	$Billion	$Billion	$Billion	%	%
Non Real Estate Debt					24	36	76	12.2	16 1
FCA Model									
Baseline	134	NA	9.9	NA					
Low Inflation—No Export Growth	126	NA	8.8	NA					
High Inflation—Strong Exports	136	NA	10 2	NA					
Gem Model									
Baseline	164	251	13.7	11.5					
Low Inflation—Low Gov't Involvement	164	250	13.7	11.4					
High Inflation—Low Gov't Involvement	182	418	15.7	16.8					
High Inflation—High Gov't Involvement	183	417	15 8	16 7					
Real Estate Debt					29	46	85	11.4	13.1
FCA Model									
Baseline	141	NA	8.8	NA					
Low Inflation—No Export Growth	92	NA	1.3	NA					
High Inflation—Strong Exports	238	NA	18 7	NA					
Gem Model									
Baseline	177	272	13.0	11.2					
Low Inflation—Low Gov't. Involvement	178	281	13.1	11.5					
High Inflation—Low Gov't. Involvement	196	501	14 9	17.5					
High Inflation—High Gov't Involvement	194	489	14.7	17.2					

1990. These reductions in farm numbers mean that growth of debt per farm will be higher (by about 2 to 3 percentage points) than the aggregate growth rates, with greater concentration in larger farming operations.

Closely related to the adjustments in numbers and sizes of farms are the financing consequences of farmers' departure from the farm sector and the entry of new operators — either from property sales at retirement or inter-generational transfers of farm property. There may be growing incentive and need for retiring farmers to leave their capital invested in agriculture, in part as a source of financing for new entrants. Moreover, unless transfer taxes are abolished, inter-generational transfers will experience estate and inheritance tax obligations that may often require asset liquidation, borrowing, or both to satisfy liquidity needs of off-farm heirs. Farmland investments may offer a form of tax shelter in inter-generational transfers through qualification for use-valuation on farmland and installment payments of Federal estate tax obligations that are sheltered from market values for land and interest rates. Debt obligations then arise to the Internal Revenue Service, with additional contingent tax liabilities if eligibility conditions terminate.

Projections of future performance are also subject to new developments in financing practices that have no historical basis for modeling. Strong financial performance in the farm sector should increase investment incentives by nonfarm investors, especially in farm land, and open new sources of equity capital. Some lenders may further develop loan programs with equity participations. Growth in farm size and greater complexity in business 'organizations should bring further adjustment to nonproprietary forms of business organization that alter patterns of managerial control and financing. Leasing of real estate should become more extensive, more formal in contractual arrangements, and more complex in financing arrangements for meeting rental payments and for 'sharing financing obligations in share leases. Leasing of non-real estate assets should increase, especially if private leasing companies, financial institutions, and manufacturers can develop leasing programs that are profitable and financially feasible for farm operators. Continued development in risk-bearing skills, especially in inventory management, marketing, and use of various kinds of insurance, will modify debt-carrying capacities and thus financial structure. Involvement of farm families in nonfarm employment and investments seems likely to increase as a

means of diversification and to more fully utilize seasonal labor resources.

Numerous other examples could be identified that arise from the results of aggregate projections and which indicate the need for careful disaggregative analysis. However, the major focus here is on how the growth in farm debt will be met by various participants in farm credit markets.

Future Suppliers of Farm Debt

Neither of the two projection models reviewed in the preceding sector is designed to evaluate the role of major farm lenders in meeting future credit needs of the farm sector. Hence, these issues require further analysis and careful judgment. In particular, there is need to address key questions about the capacity of farm credit markets to meet future financing needs, how the farm debt will be distributed among the major lending groups, and how this distribution is influenced by the various scenarios that characterize conditions in the farm sector, in government policy, in national economic conditions, and in financial markets.

First, there appear to be no strong evidence, concerns, or other indications that farm credit markets cannot continue to meet the aggregate of projected credit needs. Projected growth rates for farm debt are high but also appear lower than comparable rates for the 1970s under most scenarios. The farm sector's share of total credit market debt should continue to be low relative to shares of other sectors. Moreover, as noted earlier, the efficient access of several farm lenders (especially the Farm Credit System and the Federal government) to national financial markets means that credit should be available on a sustained basis over a wide range of possible scenarios. However, the access to national markets rests on the farm sector's willingness and ability to pay current market interest rates on debt which likely will remain relatively high and volatile throughout the 1980s.

The more pressing questions involve the relative positions of farm lending groups in meeting these credit needs, and how these market shares may respond to the various scenarios and to changes in regulations that influence competitive positions in local financial markets.

The distribution of farm debt has been characterized by steady growth in lending by the Farm Credit System, fluctuation of market

share for banks and government lenders in response to changes in farm income and financial market conditions, and declining market share for other credit sources. Market shares in the future should continue to reflect these general patterns, although they will be influenced by the long-term financial performance of the farm and nonfarm sectors and by the impact of regulatory change.

Strengthening of financial performance in the farm sector should enhance farmers' credit worthiness and should thus attract stronger participation of most non-government lenders in farm lending. Market shares of banks, life insurance companies, and trade firms would increase, as would FCS lending, while government lending would decline. In contrast, weak, unstable performance by the farm sector will diminish financing incentives of those lenders that are less specialized in farm lending. This will include life insurance companies, trade firms, and many commercial banks. Heavier financing demands would then occur for FCS and government lending programs.

The level and kind of government involvement in the farm sector also will strongly influence farm credit markets. A high profile of government involvement likely will encourage farmers to use these programs and either attract customers away from commercial lenders or discourage participation of some lenders, especially those less specialized in farm lending. A lower profile of government involvement should prompt greater participation of private sector lenders, especially if long-term farm income conditions appear favorable and if government programs continue to meet serious liquidity needs in times of natural or economic disasters. Further development of complementarities between government and private-sector credit programs should further stabilize farm credit markets. Especially promising are publicly sponsored programs for insurance and guarantees of loans made by commercial lenders. Expanding their roles and enhancing their administrative feasibility could encourage a wider range of farm lending from commercial sources. Evidence so far indicates that FmHA or SBA guarantee programs can reduce lending risks, help with legal lending limit problems, increase loan liquidity, and increase loan profitability.

Choosing a favored scenario for the 1980s is subject to much uncertainty. However, an optimistic approach, combined with the balance of evidence at the beginning of the 1980s, points toward a strong financial outlook for the farm sector over the coming decade

and a relatively low degree of government involvement.

This set of factors should strengthen the incentive for commercial banks to enhance their competitive position in farm credit markets, especially in non-real estate lending. But how commercial banks' financing role in agriculture actually will materialize is also subject to considerable uncertainty about their responses to a new regulatory environment that, once in place, could dramatically alter the structure, performance, and competitive relationships in all levels of financial markets. Hence, it is important to consider the implications of changes in the regulatory environment of financial institutions brought about by the Depository Institutions Deregulation and Monetary Control Act of 1980, by potential changes in the legal structure of banking, and by pending changes in lending authority of the Farm Credit System.

Agricultural Banking and the 1980 Act

Provisions of the Act

The 1980 Act provides for a comprehensive, coordinated revision of the regulatory environment affecting all depository institutions in the United States. Some provisions were effective upon enactment in late March, but most others will be phased in over several years. Thus, the 1980s will witness an adjustment by banks and other depository institutions to a more market-oriented regulatory environment that should increase competition among these major institutions.

The Act contains nine titles that range over monetary control and reserve requirements, deregulation of interest rate controls, extended authorization of automatic transfer services (ATS) and negotiable order of withdrawal (NOW) accounts, increased deposit insurance, expanded powers of thrift institutions, preemption of state usury limits, and other selected issues. A brief summary of significant provisions follows [Barry].

The Act requires all depository institutions to hold reserves on all transaction accounts and on all nonpersonal time deposits. Required reserves are specified as 3 per cent on the first $25 million of transactions balances, with that figure indexed annually on December 31 to rise or fall at 80 per cent of the rate of increase or decrease of the aggregate of transactions balances in all covered depository institu-

tions. Required reserves on larger transaction balances are subject to a rate of 12 per cent. The rate of required reserves on nonpersonal time deposits with maturities of less than four years is 3 per cent, and 0 per cent for those with maturities of four years or more. The Federal Reserve Board can vary the reserve rate on large transaction balances from 8 per cent to 14 per cent, and vary the reserve rate on nonpersonal time deposits from 0 per cent to 9 per cent. The Federal Reserve Board also has the authority to impose a supplemental reserve requirement of not more than 4 per cent of total transactions accounts on every depository institution when needed to more effectively implement monetary policy.

Reserves may be held as vault cash, as balances at a Federal Reserve Bank, or — if a nonmember institution — in the form of passthrough balances in another depository institution that, in turn, maintains such funds as balances in a Federal Reserve Bank. The reserve requirements will be phased in over an 8-year period for depository institutions that were not members of the Federal Reserve System on July 1, 1979, and over a 4-year period for banks that were members of the Federal Reserve System on that date. Full reserve requirements on NOW accounts take effect December 31, 1980, when institutions in the added 42 states (outside New England) are first authorized to issue such accounts.

For interest rate deregulation, the 1980 Act provides for an orderly and complete phaseout by March 31, 1986, of the ceilings on rates of interest and dividends which may be paid on deposits and accounts. The law suggests but does not mandate a phased step-up in present ceilings and requires that thrift institutions retain their one-quarter percentage point differential during the phaseout. Decisions about timing and amount of increases are being made by a new deregulation committee comprised of the Secretary of Treasury, the Comptroller of the Currency, and the chairmen of the Federal Reserve Board, the Federal Deposit Insurance Corporation, the Federal Home Loan Bank Board, and the National Credit Union Administration.

Other significant provisions of the Act include the extension of authority for ATS accounts by banks, for remote service units by Federal savings and loan associations, and for share draft accounts by credit unions; the authorization of NOW accounts for all Federally insured depository institutions effective December 31, 1980; an immediate increase in the insurance limit on deposits and accounts from $40,000 to $100,000; expanded authority for savings and loan asso-

ciations to invest up to 20 per cent of their assets in consumer loans, commercial paper, and corporate debt securities, along with more liberal lending limits on real estate mortgages; and preemption of state usury ceilings. Existing state usury ceilings on business and agricultural loans over $25,000 (subsequently amended to $1,000) were preempted for three years—subject to the right of affected states to override the preemption—and replaced with a floating ceiling of five percentage points above the Federal Reserve's discount rate.

Implications of the 1980 Act

How the regulatory changes in the 1980 Act will affect access to funds, cost of funds, and the competitive position for agricultural banks and other lenders in rural financial markets are complex issues. Interrelationships between macro- and micro-economic forces are involved. So are competitive positions of smaller banks relative to nonbank farm lending sources like the FCS. Also important is how the process of deregulation responds to political pressures during the adjustment period.

Among banks there is concern that adjustment to the new regulatory environment will be greater for smaller agricultural banks. This belief is consistent with their greater problems in fund availability. Regional and money center banks are considered less influenced by Regulation Q because of their access to national financial markets, greater capacity for liability management, and other types of financial innovation.

Changes in reserve requirements arising from the 1980 Act should release additional bank funds to support credit activities, particularly in rural areas. For any given level of reservable liabilities, the Federal Reserve's new requirements are considerably lower than the previous reserve requirements. Preliminary studies show that vault cash will cover the new reserve requirements for most smaller banks, both members and nonmembers. For member banks, this suggests that the sterile (nonearning) balances previously held to meet reserve requirements will be available to support new credit activities. The case is less clear for nonmember banks that now will be subject to reserve requirements imposed by both the Federal Reserve and by their respective states. If their vault cash is sufficient to meet the new Federal Reserve requirements and if state-imposed requirements are adjusted in response to the phasein of the new requirements, then the net effect could be an increase in loanable funds.

Additional concern arises about the effect of universal reserve requirements on correspondent relationships. A nonmember institution may deposit its required reserve balance directly with the Federal Reserve or it may pass its required reserve balance through to the Federal Reserve through a correspondent. Many nonmember banks have simultaneously satisfied state reserve requirements and compensation for correspondent services (including loan participations) by holding demand balances with their correspondent. The correspondent could invest these funds, net of their own reserve requirements. Now the portion of balances meeting the respondent banks' reserve requirements must pass through to the Federal Reserve, making them sterile funds for the correspondent. As discussed above, the strength of this effect on correspondent relationships will depend on the net effect of the new Federal Reserve requirements on the reserve position of nonmember banks.

Elimination of interest rate controls on deposits and preemption of state usury ceilings on loans should contribute to greater efficiency in the flow of funds in rural financial markets and to pricing policies that are more responsive to market factors. Smaller banks will have greater flexibilities in bidding for funds in their local markets, especially those funds that in periods of high interest rates are channeled into money market funds, and directly into money and capital markets. Eventual elimination of the one-quarter per cent differential between thrift institutions and banks will eliminate any disadvantages experienced by banks as a result of this differential. Accompanying those changes will be higher, more volatile interest rates on bank deposits and higher overall costs of bank funds.

How much the cost of funds for agricultural banks will increase is difficult to foresee. Federal Reserve data [Melichar] show that time and savings deposits account for about two-thirds of total deposits at agricultural banks. Moreover, since the high interest rate periods of the late 1970s, increasing reliance has been placed on money market certificates and 30-month certificates of deposit, both having ceiling rates indexed to yields on U.S. government securities. Hence, a relatively high portion of agricultural banks' costs of funds already responds to market factors. Furthermore, the net effect of higher costs of funds should be offset in part by banks' increased revenue from fees, service charges, and higher interest rates on some loans.

Responses of banks' interest rates to loan customers will be strongly influenced by local competitive conditions. Especially im-

portant is the competition between depository and non-depository institutions and the expanded competition in consumer lending by saving and loan associations. Suppose, for example, that banks and other local institutions experience similar increases in the cost of acquiring local funds. They likely can pass these higher costs along to loan customers without much fear of losing customers to one another. However, competition for farm lending between local banks and Production Credit Associations or government agencies may initially tend to constrain increases in farm loan rates charged by banks, if the cost of funds to PCA's or government agencies is not directly affected by the factors raising the cost of funds to banks. Hence, banks' higher costs of loan funds will sharpen the need for competitive pricing of loans and other services. If, for example, lending competition between depository and non-depository institutions on consumer and commercial loans is less than on farm loans, price differentials may arise among loan types in response to these differing degrees of competition. Banks' farm loan rates may remain in line with farm loan rates from non-depository sources, while rates on nonfarm loans would be higher.

Offsetting effects may occur if thrift institutions vigorously exercise their expanded authority in consumer lending and services, leading to greater loan competition with banks. Further offsetting effects will occur if rates in rural financial markets continue to become more responsive to rates in national markets. Then costs of funds for banks and other farm lenders should follow each other more closely, and differences in loan rates would be based largely on differences in risk premiums, efficiency of intermediation, and regulatory factors affecting each lender.

In summary, once the new regulatory environment is in place, it should permit agricultural banks to compete more equitably for funds in local markets, especially during periods of high interest rates and tight credit. Banks will likely experience greater variability in their own costs of funds but reduced cyclical stress during periodic financial crises. While severity of periodic stresses in funds acquisition will be reduced, the need for careful monitoring of rates in both local and national financial markets will increase, as will the need for efficient, responsive pricing policies on sources of bank funds and on loan portfolios. Farmers who borrow from banks will likely experience changing conditions in financial markets more in terms of variability of interest rates than in variability of fund availability, as

occurred in the past. Use of variable or floating rates on loans should increase as lenders seek to pass costs and risks of funds acquisition on to borrowers.

Impact of the 1980 Act on future profitability, portfolio adjustment, and competitive position of rural banks is less clear. A recent ABA study shows, for example, that community banks in general appear to have successfully sustained their profit positions through the stresses of 1979-80. In addition, experience of banks in New England that have dealt with NOW accounts for several years shows successful adjustment to the introduction of interest-bearing transaction accounts. But these past experiences appear different from the case of typical agricultural banks who have heavy community involvement in farm lending and who must compete with large, highly efficient farm lenders like the Farm Credit System and government lenders.

If more equitable access to local deposits comes at substantially higher interest costs, then smaller rural banks will be hard pressed to compete in farm lending on terms that meet their profit expectations, even if profit targets are lowered as a result of more competitive financial markets. Instead, higher proportions of bank funds may be allocated to investment in securities that may tend to maintain short term profit positions, but will erode longer term growth potential. These tendencies could heighten the push toward larger banks and liberalization of branching.

Finally, it does not appear that response to the 1980 Act will have much impact on smaller banks' need for and access to nonlocal sources of funds. Most factors that influence needs for nonlocal funds will continue as before.

These include loan requests that exceed rural banks' legal lending limit, seasonal patterns in loans and deposits, liquidity pressures on loans and deposits from changes in local farm income conditions and farm-related business activity, and periodic needs to reduce risk in loan portfolios and to restructure balance sheet ratios. Hence, the need continues to further refine and develop nonlocal sources of funds for smaller banks.

Other Regulatory Changes

Banking Structure

Prospects appear promising for significant structural change in the

banking industry due to liberalization of geographic restraints on banking activities. A presidential task force has been studying this issue in the last two years and is expected to propose a substantiai easing of restrictions on interstate banking. While any such changes will affect competitive relationships within the banking industry, they appear warranted in light of new competitive market forces that diminish the effectiveness of limits on geographic expansion by banks. Growth of electronic banking services and expansion of major retailers, brokers, and money market funds into bank-like activities have made the system of geographic restraints outmoded and have eroded banks' competitive position relative to other financing institutions.

Current geographic constraints could be eased in two ways. One would be to liberalize the McFadden Act, which prohibits branching across state lines and allows states to set branching policies within their borders. The other would be to change the Douglas amendment to the McFadden Act, which prevents bank holding companies from buying or setting up subsidiaries outside their home state unless authorized by state authorities. Preferences appear to rest with modifying only the Douglas amendment, which would probably bring out-of-state competitors into new markets without having much impact on competition between small banks already in those markets. Liberalizing the McFadden Act would force major changes in local banking structure associated with branching by nearby competitors. If the interstate banking approach is followed, then intra-state changes in bank structure still rest with individual states.

Evidence about the impact of banking structure on agricultural financing is mixed and largely inconclusive. Melichar, in synthesizing and summarizing results of several studies on effects of changes in bank structure on farm lending, found little support for advocating much change in banking structure to solve lending problems in the 1960s — a conclusion similar to that of an Agricultural Bankers Association Task Force. More banks in unit banking states had encountered problems in financing farmers than had banks in branching states; however, rural unit banks also made relatively more use of mechanisms designed to cope with such problems.

In a more recent study, Doll reaches similar conclusions that banks' structure does not appear to have a significant impact on the ability of agricultural banks to finance agriculture, and that changing the banking structure is not likely to solve the major problems

confronting agricultural bankers. Savage also cites evidence that entry into new markets by large banking organizations has not driven small banks out of business. An alternative view is offered by McCall, who cites evidence that potential banking competition is greater in states with more liberal branching, that it influences bank performance, and that unit banks in statewide branching states use a greater proportion of available resources for loans than do similar banks in unit banking states.

In light of this mix of evidence, it may be reasonable to conclude that liberalization of bank structure regulations at the national level could at least offer an additional element of flexibility for tapping nonlocal sources of funds for farm lending. Other changes in bank structure then would rest with individual states.

Lending Regulations and Competition

Another prominent regulatory issue in farm credit markets involves the impact of legal and regulatory restrictions on competitive balance among major lenders, with current emphasis on commercial banks that are heavily involved in farm lending and the Farm Credit System. These issues again have surfaced in legislative hearings and debates on the Farm Credit Act amendments of 1980 now being considered by the U.S. Congress. The bill is intended to update and improve the operation of the Farm Credit System through a set of amendments to the 1971 Farm Credit Act. No attempt is made here to review the detailed provisions of the bill. However, it is appropriate to note that the scope of debate has widened considerably beyond the original content of the proposed amendments to now treat some of the basic differences in the regulatory environment for these two major farm lending groups.

While viewpoints of commercial banks are mixed, the leaders [Finson and Minger; Jackson and Schleusnerl of those banks more heavily involved in farm lending contend that FCS gains competitive advantages in costs and availability of loan funds for agriculture as a result of lower income tax obligations, less stringent regulation and supervision, a nationally federated structure, exemption from usury ceilings and legal reserve requirements, and access to national financial markets on terms that appear comparable to those of the U.S. government. Further concerns are that FCS is expanding the scope of credit and related services to agriculture to levels that may some day resemble a banking institution, that this expanded scope would ex-

ceed the bounds originally intended for FCS, and that revisions in access by other financing institutions to Federal Intermediate Credit Banks as a source of funds do not go far enough in meeting banks' liquidity needs.

In support of its own proposals and in response to these contentions, the Farm Credit System has contended that its prime consideration is whether or not the proposed legislation would further the objective of "improving the income and well-being of American farmers and ranchers" [Wilkinson]. They further contend that an important part of the proposal would enable FCS to work more closely with other lenders, including commercial banks, in meeting the credit needs of rural America. Some additional competition with other lenders would occur, but this would be fair and healthy competition consistent with the interests of the agricultural community and of the nation as a whole.

FCS is concerned that it is inappropriate to evaluate competitive equality among different types of financial institutions using the same set of evaluative criteria, when these institutions are charged with serving different clientele and with providing different financial services. Examples of FCS uniqueness include their specialization as an agricultural lender with strict eligibility requirements on borrowers, an obligation to serve all agricultural areas during all economic times and conditions, a limited range of financial services tailored to the needs of its agricultural clientele, and a non-depository function that also is presumed to exclude transaction accounts services.

However the Farm Credit Act Amendments Bill of 1980 is resolved, it is likely that the legislative process will continue to address issues involving competitive balance among farm lenders in hopes of fostering the most equitable competition possible, while still responding appropriately to changing capital and credit needs in agriculture.

Concluding Comments

A highlight of farm credit markets has been their responsiveness to change — to innovate in farm lending, to keep pace with growing capital and credit needs, and to adapt institutions and programs to changing conditions in agriculture. This evolutionary pattern will continue in the 1980s with new challenges provided for innovation and enterprise.

Results of projection models presented earlier show that financial performance and credit needs in the farm sector are strongly influenced by the combined effects of numerous forces in agriculture, financial markets, the general economy, and government policy. Nonetheless, conditions point toward stronger financial performance of the farm sector for the 1980s and more moderate growth rates for farm debt than occurred in the late 1970s. Government involvement in agriculture then should be lower, focusing on buffering fluctuations of commodity prices and providing farmers with liquidity in times of severe disasters. As a result, stronger credit worthiness for the farm sector should attract vigorous participation by private-sector lenders in financing agriculture.

How the role of commercial banks in financing agriculture will evolve is subject to much uncertainty about their responses to regulatory changes. These changes could significantly alter the structure, performance and competitive relationships in farm credit markets. Preliminary appraisals indicate that the 1980 Act should release additional bank funds to support credit activities in rural markets, enhance efficiency in local flows of funds, allow more equitable competition by banks for deposit funds, and bring more efficient, market-oriented pricing on loans, services, and sources of funds. Farmers who borrow from banks should experience changing conditions more in terms of variability of interest rates than in variability of fund availability, as occurred in the past. If, however, more equitable access to local deposits comes at much higher interest costs, then smaller banks will be hard pressed to profitably compete with other farm lenders.

The 1980 Act will not have much impact on needs by smaller banks for nonlocal sources of funds. Hence, the need continues to improve these banks' access to nonlocal sources. The more promising methods include improved arrangements for loan participations within banking and with other institutions, further development of secondary markets for farm loans that are secured by effective collateral control, government guarantees, or commercial insurance, and more extensive development of Agricultural Credit Corporations (ACC's).

Included in the ACC concept are coordinated efforts by groups of smaller banks on a state, regional, or national basis to gain access to nonlocal funds either through Federal Intermediate Credit Banks or by sale of money market instruments. This idea has been proposed

before, but it appears to warrant renewed consideration now, especially if geographic constraints on banking are liberalized. The group approach would give size-related advantages to agricultural banks in a permanent way that would preserve the features of a unit banking system while helping these banks to cope with the larger size and regional-national orientation of other farm lenders. The recent formation of a multi-bank ACC in Minnesota and considerations of similar ventures in other states are clear steps in this direction.

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3
The Role for Correspondent Banking: A Money Center Perspective

John W. Ballantine

The banking industry, or perhaps more precisely the financial services industry, is in the process of being radically reshaped. This is occurring not only as a result of increasing competition from the entire spectrum of domsetic and foreign financial and non-financial institutions, but also as a result of generic changes ,in the bank services market.

Prospectively, changes to those laws which govern the geographic and operating franchises under which each bank operates will have much to do with the timing and extensiveness of this restructuring. More significant, however, is the potential for change resulting from a deregulation of financial institutions. The ultimate shape of the financial institutions market is not yet ascertainable, although certain trends are obvious. We can be certain that the correspondent banking system will be significantly altered as historical regulatory and competitive constraints are removed.

In order to logically explore the possible effects of such changes and how they might affect the relationships which now exist among money center banks and their agricultural correspondents, it is first necessary to examine and understand the basic elements of the existing system. This descriptive process should focus on three sets of interrelated issues: definitional issues, structural issues, and risk vs. return issues. Once we have briefly explored these issues we can, by thinking of them in the context of possible future environments, reach some conclusions as to the directions that correspondent relationships will take.

Definitional Issues

For the most part, we have a relatively uniform idea as to what an

agricultural bank is in the context of correspondent banking. There is, however, less than universal agreement as to which banks are money center institutions.

The general definition of such an institution typically centers on three major characteristics: size, location, and funding capability. Other, secondary characteristics, such as range and sophistication of services or diversification of interests, can be included in defining the scope of this market, but are almost always observable only where the major characteristics are present.

Based on this premise we might conclude that there are some 20 to 25 domestic banking institutions that are money center banks. However, in terms of correspondent relationships, that list should be expanded to include other financial institutions (e.g., insurance companies, trust companies, investment bankers) as well as nonfinancials to the extent that such companies would choose to forge mutually beneficial relationships with agricultural banks. Additionally, there are many foreign banks operating domestically which meet our criteria as money center institutions, and they too should be included in any discussion of potential participants in this market. To the extent that smaller banks work to cultivate these institutions, market access to funding sources is greater than ordinarily assumed.

Structural Issues

Historically, funding relationships among money center and agricultural. banks have been based on three principal factors. First, regulatory and legal constraints on banks resulted in a real need to create sustainable partnerships in order to satisfy local credit needs. Second, the same constraints which limit smaller banks in terms of their capability to book assets have contributed to relative higher asset liquidity in those banks. And, third, larger banks have generally had relatively high liquidity on the liability side, a capacity to attract funding that has generally exceeded their capacity to generate reasonably priced assets. In essence, we have had a system of recycling which successfully satisfied market needs and artificial constraints.

If, for example, a bank has a request for financing from a customer which is in excess of its legal lending limit, it typically has sought to sell the overline to a correspondent, thereby achieving its objectives of servicing its local market without violating a specific legal constraint. Likewise, it might be necessary for a bank to sell participa-

tions as a result of other artificial constraints, whether those constraints were created internally (e.g., policies relative to portfolio diversification) or externally (e.g., regulator mandates or concerns as to overall leverage or risk asset ratios), or real constraints (e.g., lack of funding capacity or liquidity).

The purchasing bank has not only obtained an earning asset through this process, but has also strengthened its relationship with the selling bank. This is an extremely important point because, in terms of aggregated numbers, smaller banks have been net providers of funds to money centers. Perhaps most important is the fact that the funding provided by smaller banks—not only demand deposits, but large denomination CD's, Fed funds, and the like—has been relatively low cost and extremely stable relative to other funds sources.

To put it even more simply, smaller banks have historically utilized their correspondents in order to satisfy critical needs on the demand side, and they have simultaneously satisfied the net supply side needs of their correspondents on a cost-effective basis. The symbiotic nature of this recycling process is one of the fundamental elements of an efficient and effective correspondent banking system.

Risk vs. Reward Issues

In the process of transferring assets to its money center correspondent, the local bank has also transferred some portion or all of the risk inherent in that asset. While the basic process of recycling allows satisfaction of market needs for participants in terms of funds flows, it neither distributes risk evenly nor does it assure adequate compensation for risks incurred in the process. Furthermore, costs, both funding and administrative, differ widely among participants in the recycling process and, consequently, net returns may be more than adequate to one participant and less than adequate to another even if gross compensation is well distributed. **A** short series of hypothetical examples may be helpful in illustrating the problems related to this issue.

Tradition Overline

In this example, we assume that the smaller bank must sell an overline to its money center correspondent and that the selling bank is simultaneously providing some funding to the purchasing bank in the form of demand deposits, Fed funds, or some combination of the two.

The seller has, of course, been able to meet its customer's request but, in order to do so, has generated a mix of earning assets (the loan, Fed funds sold) and non-earning assets (due from balances) which probably have a lower gross return than would have been achieved had the entire loan been booked. The selling bank's risk is presumably lower and so is its potential return although this is balanced, at least in part, by the fact that external constraints forced the sale of the overline.

The purchaser, however, has now assumed whatever risk is inherent in the transferred asset. To the extent that the purchaser could have created an asset with a greater relative net yield (based on gross yield as well as funding and administrative costs) he has lost profit opportunity, unless the relationship between the seller and the purchaser is such that a lower cost structure is afforded the purchaser in order to assure an appropriate net return. To the extent that the seller subsidizes the purchaser (e.g., through a mitigation of funding costs) in order to provide an adequate net, the seller's return may be inadequate. If the seller is unwilling or unable to subsidize the purchaser for risk assumed, the purchaser may be unwilling to enter into the transaction.

Sale of Assets for Liquidity Purposes

In this example we assume that the smaller bank wishes to sell a loan or a group of loans either because its funding sources have been exhausted or because it has reached or exceeded a desired or mandated degree of leverage.

The prospective purchaser in this example is probably not being funded in any significant way by the seller. Consequently, there is little or no subsidy available to the purchaser, and the asset must have a gross yield such that the purchaser is satisfied that his net return, based most likely on pricing relative to his marginal cost of funds, is adequate relative to his assumption of risk and administrative burden.

Direct Funding of a Smaller Bank

In this example we assume that the smaller bank has the capability and desire to assume all local risk and has sought direct funding, in the form of either short- or long-term debt, from its upstream correspondent. In this case the larger bank is presumably willing to adjust its pricing and prospective return in consideration of the mitigating effect of diversification of risk created through intermediation and,

possibly, some subsidy created out of the existing correspondent relationship.

The smaller bank, in choosing to accept individual local risks funded by the direct support from its correspondent, or by a combination of that direct funding and a resultant increase in leverage capability, now bears the risk that its gross and net returns (accounting for a marginal cost of funds) will be sufficient to justify its complete assumption of risks.

There are some common concepts that can be gleaned from these examples. (1) If pricing to the borrower is inadequate to compensate for risk and the costs of doing business, some subsidy will have to be introduced to create an incentive for recycling. (2) Subsidies are almost always provided by the smaller, or selling, bank either in the form of cost subsidies or by disproportionate risk absorption. **(3)** Larger, purchasing entities generally have greater control over the nature of sale-purchase transactions.

It is apparent that the recycling process has successfully met the need to redistribute assets and to compensate the participants for risk redistribution through a combination of direct pricing and subsidy of costs. Smaller banks have historically used their relatively lower cost local funding to provide the necessary subsidies; their local economies, as a result, have been well served as community credit needs were met through this process.

Summary of Issues

Prior to an exploration of future directions, it is appropriate to first summarize the issues raised in our examination of the existing process by which local credit needs are met utilizing the partnerships between agricultural banks and their money center correspondents.

First, we should expand our view of potential partners from just money center banks to money center institutions: the entire range of large institutions with money center funding capabilities should be looked at as potential correspondent partners.

Second, the current recycling process exists principally as a result of structural constraints. Liberalization of constraints would lessen the need to recycle. Continuation or proliferation of certain constraints would make recycling unachievable.

Third, risk redistribution requires a redistribution of potential net return. It has depended, in the past at least, either on the realization of

attractive market yields or subsidies of costs, whether those costs were administrative or funding. Extremely low pricing or extremely high costs can make redistribution impossible.

Salient Future Trends

There are at least two trends that are of significance in regard to correspondent relationships and how those relationships may be altered in the future.

The most important trend, or set of trends, has to do with the increasing emphasis which has to be placed on asset and liability management techniques. While money center banks have employed a variety of techniques for a number of years, with varying success, deregulation is forcing smaller banks, principally through a series of actions which have increased the cost and volatility of cost of funds, to adopt similar methods. However, smaller banks do not enjoy the same flexibility as their money center counterparts; their ability to select from alternative sources of funds or to generate alternative earning assets is, for example, much more limited. Consequently, they will have an extremely small tolerance for error as deregulation continues.

The very nature of agricultural credit markets exacerbates this problem. The proliferation of governmental lending vehicles, for example, has been a significant factor in terms of the relatively thin pricing which characterizes agricultural credit markets. While national social and economic goals may be furthered through governmental subsidies of borrowing costs, pricing of agricultural credits in highly competitive capital markets may not be sufficient to cover recycling costs in the future.

Conclusions

Traditional approaches will undoubtedly survive for at least the next five to ten years although pricing, especially on smaller credits, will have to be adjusted upwards in order to cover higher funding and administrative costs.

Much of the credit generated by smaller agricultural banks, however, will be cycled into regional banks rather than money center banks. While this has always been true to a degree, the rapid growth of regional banks has resulted in an increasing capacity to attract

funds and a resultant appetite for assets which can be efficiently generated through their regional correspondent networks.

Major money centers will continue to support their agricultural correspondents in the historical manner, especially if they have a definite commitment to helping agricultural banks or a desire to leverage existing resources dedicated to the agricultural market. Moreover, money center institutions are increasingly likely to attempt to service this market through corporate finance and investment banking techniques which result in fee income without any significant assumption of risk. Packaging of agricultural loans for resale is a valid concept; the questions of market acceptance, depth, and mechanics remain to be answered.

Finally, cross-streaming of local credits will undoubtedly increase during the next decade as banks within a particular locality choose to work more closely in order to protect their markets and preserve their profitability through more efficient administrative handling of smaller credits.

In conclusion, the traditional correspondent relationships among agricultural and money center banks are going to be restructured substantially. The principal catalyst of change is the ongoing deregulation of financial institutions. To the extent that this deregulation results in significant cost increases to agricultural banks, they will be unable to subsidize the traditional recycling process without impairing their own profitability.

Consequently, agricultural banks must seek to enforce market pricing levels which are sufficient to assure adequate returns, whether those assets are held on or off their balance sheets. Pricing must be attractive relative to alternative earning assets in national markets to assure the availability of funds, and administrative complexity must be minimized to assure efficient recycling.

4
Financing the Agricultural Industry by Regional Correspondent Banks

Jim Timberlake

The agricultural industry in the United States annually has needs for millions of dollars to finance the goods and services that it produces for the marketplace. The products range from raw grain and seed to expensive and complex pieces of machinery to produce these goods. Nationwide, the industry is very complex, and it would be impossible to cover every financing need in this article. My experience in this area relates to agricultural credits in the southwestern United States, and I would like to briefly discuss some of the problems and solutions to financing the agricultural industry.

Fidelity Bank, N.A., of Oklahoma City is a regional bank with total assets of approximately $660,000,000. It is a downtown commercial bank in Oklahoma City which is heavily involved in correspondent bank services. At present, Fidelity has 330 correspondent bank customers. These banks are primarily located within the state of Oklahoma, with a small number of correspondent relationships from banks in the surrounding states. The state of Oklahoma has 491 banks which are individually owned, and a large majority of these banks are located in rural communities.

Agriculture is the No. 1 industry in Oklahoma. Financing for this industry is provided by a variety of financial institutions, including country banks, regional banks, Agricultural Credit Corporations, Production Credit Associations, Farmers Home Administration, and Federal Land Banks, as well as by companies producing agricultural equipment, products, and services.

There are a number of problems that regional banks face in trying to finance the agricultural industry:

1. The need for the funds to finance the agricultural industry

comes from the rural communities, but the concentration of deposits to make these loans is located in the intermediate size towns and the regional money centers.

2. The legal lending limit of many country banks is too small to take care of the needs of the customers. This means that the country banker either does not go beyond his legal lending limit, or he has to contact his upstream correspondent to obtain additional funds to take care of his customers' needs.
3. In some regional money center banks, there is a lack of commitment by the executive management to set funds aside for agricultural lending.
4. Sometimes, within a regional money center bank, there is a strong demand for loanable funds to be used locally rather than sending those funds to the country for agricultural loans.
5. Some regional money center banks are reluctant to bypass their downstream respondents and solicit loans directly from the rural area. This can undermine the relationship they have with their correspondent banks if those correspondents feel that the money center bank is bypassing them and going straight to their customers.
6. Another problem for the regional money center bank if it is soliciting loans directly from the rural areas is the ability of the regional money center bank to get to know its borrowers. What type of individual are they dealing with? How successful have they been in the agricultural business? And can the money center bank become familiar with their type of operation?
7. Sometimes country banks will not go beyond their legal lending limit for their customer and, consequently, the regional money center bank never has an opportunity to participate in the loan.
8. Another problem that exists between the country bank and the regional money center bank is the difference in interest rate charged to the borrower. Generally speaking, the cost of funds at the regional money center bank is higher than in the country and, Subsequently, the country banker charges a lower interest rate on the loan. When the country bank asks the money center bank to participate in the loan, it is necessary to make up this difference in interest rate in order that the loan be attractive to the money center bank.
9. Having qualified personnel in agricultural lending in the regional money center bank enables that bank to understand and

develop agricultural credits. Those people will deal directly with a country bank and its customers or contact the borrower directly. They also provide the expertise to present and explain the agricultural credit at the regional money center bank.

All of the aforementioned problems related to agricultural credits are certainly solvable. Once the commitment is made by the executive management of the regional money center bank, time, personnel, and programs can be implemented to solve these problems. Presently, the correspondent banking system does provide loanable funds to finance the agricultural industry. Correspondent bank balances that are carried at the regional money center banks are returned to the country in the form of loans in the agricultural industry.

What does the future hold for financing the agricultural industry through the correspondent banking system? I believe that there will be more competition for the agricultural loan in the future. There will certainly be more dollar needs to finance this industry. Interstate banking is a strong possibility in the 1980s. Banks in the money centers will be soliciting agricultural loans wherever there is that opportunity. Sometimes the loans will come through a regional money center bank and, in other cases, they will deal directly with the borrower. There is also the possibility that other financial institutions may entertain agricultural credits, with such institutions as savings and loan associations and credit unions viewing these loans as desirable. Another competitor for agricultural credits will be the Federal government. Extension of credit by various government agencies already plays an important role in financing some types of agricultural credits. At this time it remains to be seen how the Farm Credit Act will influence agricultural lending. Presently the Federal Reserve Banks provide seasonal borrowings for their member banks; however, it is doubtful that they will participate with their member banks on agricultural credits. I believe that competition for agricultural credits will intensify during the 1980s.

I would like to briefly mention three major pieces of banking legislation and how they may affect agricultural lending. The three pieces of legislation that I refer to are the Financial Institutions Regulatory Act, the Monetary Control Act of 1980, and the Farm Credit Act, which at this point is a proposed law. One restriction within FIRA is the limitation on the amount that a director can borrow from his own bank. In many cases, farmers and ranchers are directors

of their local country bank. Those directors are now limited to borrowing only 10 per cent of the capital and surplus of the bank under FIRA. This has reduced the amount of money available to them to finance their agricultural operations. In this situation, the local banker has three alternatives: (1) He can participate that amount of the loan which is beyond his legal lending limit to an upstream correspondent, (2) The director can resign from the board, which will enable him to borrow more funds from that same bank, or (3) The director can do his borrowing from some other financial institution, which is a detriment to his own bank.

The Monetary Control Act of 1980 has changed the reserve requirements for all banks and financial institutions in the United States. It will increase the reserve requirements of the state nonmember banks and lower the reserve requirements of the larger national banks at regional and money center locations. Since many of the country's rural banks are state nonmember banks, this will have a tendency to take out of circulation more loanable funds and set them aside as reserves. This would mean in turn that the local bank would have fewer funds to lend to its customers for agriculture or any other purpose.

The Farm Credit Act, which will probably be enacted in late 1980 or early 1981, will definitely affect agricultural financing throughout the country. The bill expands the powers and permitted activities of the quasi-governmental Cooperative Farm Credit System (CFCS). This legislation moves CFCS increasingly out of agriculture and into competition for banks' commercial nonfarm customers. Cooperative Farm Credit System is primarily the nationwide competitor of banks and other lenders involved with agricultural related loans. Today CFCS provides 40 per cent of all farm loans. This is compared to banks' 34 per cent share of the market. In contrast, back in 1950, the banks held 50 per cent of all farm loans, while CFCS only had 17 per cent of the market. CFCS includes Federal Land Banks, Federal Land Bank Associations, Federal Intermediate Credit Banks, Production Credit Associations, Banks for Cooperatives, and the Central Bank for Cooperatives. The new law would permit these agencies to expand their lending to the agricultural industry, as well as the support industries that produce, transport, manufacture, and distribute farm-related products.

As you can see, this legislation will increase competition for agricultural related loans during the 1980s. I feel that regional money

center banks are going to have to do a better job in order to maintain their portion of agricultural-related loans. The present trend is that the agricultural industry is moving away from the commercial banking system and seeking financing through other sources. The 1980s will definitely be a more competitive time for the commercial banking system as it provides financing for the agricultural industry.

Commentary

Robert E. Knight

The papers presented by Jim Timberlake and John Ballentine are both excellent and thought-provoking. Timberlake is probably correct in arguing that banks serving agricultural areas are likely to experience increased competition, not only in raising loanable funds but also in lending them. In the future the growth in the supply of loanable funds at agricultural banks is likely to be limited. Nonbank competitors, such as thrift institutions and money market mutual funds, are likely to compete more aggressively for consumers' savings and are likely to make relatively few agricultural loans. The competition in making agricultural loans, though, may be increased as government programs, mainly those administered by the Farm Credit System, expand, tapping the national money markets for funds to make agricultural loans.

Ballentine, on the other hand, is right in stressing that loan participations should be profitable from the standpoint of a correspondent. Agriculture will have to pay a competitive rate for funds or the funding of agriculture will largely fall by default to the Federal government. However, I would caution correspondent banks that what really matters is the long-run profitability of customer relationships, not the profitability and rates charged in any particular quarter or year. Rates on agricultural loans typically rise less rapidly than the prime loan rate, and also decline less rapidly. Over the long run, agricultural loans are likely to be quite profitable, and from the standpoint of a correspondent purchasing participations, are likely to require little direct servicing and to be highly collateralized.

On balance, I am optimistic that the majority of agriculture's credit needs can be met by rural banks with loan participation assistance from the regional correspondents. Money center banks will play a

role, but it will be limited as it has been in the past.

While I largely agree with the major points in each of the papers, I also feel that meeting the loan participation needs of rural and agricultural banks will require a renewed commitment by correspondents in future years. Over the years, the growth in the proportion of agricultural banks requiring loan participation assistance and in the dollar magnitude of participation loans has been dramatic. For example, surveys indicate that in 1945 only about 26 per cent of the rural banks required loan participations, but by 1959 the figure had risen to 67 per cent, and by 1979 to 72 per cent.[1] Similarly, in 1978 it was estimated that correspondents were holding about $1 1.2 billion in loans which had been originated by community banks. Of this total, commercial and industrial loans comprised 63 per cent; real estate loans, 15 per cent; agricultural loans, 14 per cent; and other loans, such as pools of instalment loans, 8 per cent.[2] These figures, however, probably understate the magnitude of agricultural loan participations. Many banks tend to classify credit to corporate farming ventures and feedlots as commercial loans, rather than as agricultural loans.

The most recent survey dealing with loan participations was conducted by the American Bankers Association in 1979.[3] In that study, questionnaries were sent both to correspondent banks and to their respondents.[4] Correspondent banks overwhelmingly ranked assistance with check collection and loan participations as the two most important correspondent services. Country banks assigned a slightly lower ranking to loan participation services, but the difference is probably not significant. However, country banks also indicated that loan participation assistance was the correspondent service most in need of improvement. Interestingly, correspondent banks felt that loan participations were among the most profitable of correspondent

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1. Robert E. Knight, "Correspondent Banking, Part II: Loan Participations and Fund Flows," *Monthly Review*, Federal Reserve Bank of Kansas City, December 1970, p. 13, and unpublished results from the ABA survey cited in footnote 3.

2. "New Survey Finding: Correspondent Banks Report Fast Growth in Loan Participations," *ABA Banking Journal*, September 1978. p. 52.

3. Robert E. Knight, "New Profile Study of Correspondent and Respondent Banks." *ABA Bonking Journal*. November 1979, pp. 50-61.

4 Throughout these comments, the terms "correspondent bank" or "correspondent" refer to a bank accepting deposits from other banks and, in return, offering services, such as loan participation assistance, to these banks. "Respondents," or banks in general. are considered to be the recipients of these services.

services, but that they were also one of the most difficult to provide.

The reasons for the seeming dissatisfaction on the part of country banks and of the difficulty on the part of correspondents in meeting loan participation requests is not immediately clear. Undoubtedly several factors contribute to this feeling. Country banks, for example, frequently complain that their ability to place participations depends on monetary policy. During periods of tight money, correspondents appear to he less willing to accept participations in loans. Correspondents, on the other hand, often argue that agricultural banks tend to make loans at lower interest rates than the correspondent would charge if it were making the loan directly. Many correspondents also cite loan documentation as a problem with loans originated by country banks. There is little doubt that correspondent banks have experienced increased concern about their positions with participation loans should the borrower or the originating bank experience financial difficulties. Courts have held that if a participation loan turns sour, the correspondent's recourse is to the originator of the loan (the country bank), and not to the original borrower.[5] Moreover, if the originating bank were to experience financial difficulty, the correspondent might find itself an unsecured creditor.

Although they are less frequently cited, two other factors have undoubtedly also contributed to the difficulty some banks have experienced in obtaining agricultural loan participations. First, some large correspondents make relatively few agricultural loans and are not readily prepared to evaluate the quality of requests for participation assistance in such loans. Second, a tendency may exist for correspondents to doubt the ability of smaller banks to manage and administer large complex credits properly. In either case, a correspondent might be inclined to delay unnecessarily in making a decision on the credit or may decline the credit without a thorough exploration of the particulars.

To the extent these problems exist, none would appear to be insolvable. Low interest rates are likely to be less of a problem for correspondents in the future because the growth in money. market CD's and other purchased money, coupled 'with the volatility of interest rates, has forced most country banks to evaluate their cost of loanable funds on a more frequent basis. Fluctuating-rate loans tied to

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5. F William Vandiver, Jr.. "Loan Participations — Upstream/Downstream," *Journal of Commercial Bank* Lending, December 1977, p. 52. .

a money market rate of interest are becoming much more common at agricultural banks. The acceptability of such loans to borrowers, moreover, is demonstrated by the growth the Farm Credit System has experienced over the years. However, a bank's ability to write variable rate loans also depends on the capacity of the borrower to absorb sizable rate increases. This capacity is often limited for small businesses and agricultural units which operate in markets in which individual firms have little influence on the prices received for goods sold or produced. In any event, during periods of monetary ease, loan rates frequently decline less at agricultural banks than they do at correspondents, with the result that at such times the yield on participation loans should be relatively attractive to correspondents.

Loan documentation and the confidence of correspondents in the ability of respondents will undoubtedly continue to be problems with participation loans, but could largely be overcome if both the correspondent and the originating bank were willing to work together. Legal problems regarding the security position of a correspondent can also be resolved as each bank is named in the loan and security agreements, and each holds a copy of the master note for its pro rata share of the loans.

Looking to the future, the demand for participation loan assistance is likely to grow dramatically, particularly if interest rates trend downward. This growth is likely to occur for a variety of reasons. First, the high inflation rate of recent years has resulted in the credit needs of many bank customers growing much more rapidly than the lending limits of their banks. At the same time, the growth in bank capital, and bank lending limits, has been slowed by the depressed prices which have existed for several years for bank stock. As a result, banks have generally been unable to raise new equity capital externally without severely diluting the holdings of present stockholders.

A second factor that will contribute to the growth in the demand for participation loans is the Monetary Control Act of 1980. This legislation granted thrift institutions significantly expanded powers, such as the ability to offer NOW accounts and to serve as full-service family financial centers. With thrift institutions becoming more competitive, deposits are likely to be siphoned from commercial banks, and the profitability of commercial banks is likely to be lowered. This diversion of funds is likely to cause rural and agricultural banks, at least in the short run, to grow less rapidly than would otherwise be the

case. Without expanded participation assistance, these banks may have to restrict credit availability to agricultural and business customers. In addition, the reduced profitability of banks is likely to slow the growth of bank capital and bank lending limits.

Correspondents, on the other hand, are likely to find that meeting the loan participation needs of respondents is more difficult than it has been in the past. Historically, the volume of participation loans held by correspondents has averaged significantly less than the volume of deposits which correspondents have received from respondents. As a result, correspondent banking departments have tended to generate loanable funds for other areas of their banks. However, during the next few years the ability of correspondent departments to generate a surplus of loanable funds is likely to be diminished. Under the Monetary Control Act, Federal Reserve member banks will gradually have their reserve requirements lowered, while nonmember banks will have to begin posting reserves with the central bank. Correspondents can reasonably expect that member banks will increase their balances at correspondents somewhat during this transition period. As their reserve requirements are lowered, member banks are likely to hold additional balances with correspondents. These funds will serve both as a claim on future correspondent services and to meet their anticipated liquidity needs, which can be satisfied less readily with the reduced reserve balances at the Federal Reserve.

However, a sizable proportion of the reserves nonmembers will be required to hold is likely to come from the balances these banks presently maintain at correspondents. Moreover, some nonmembers which do not have readily available funds to post as reserves are likely to want to pay for correspondent services by paying fees, rather than by holding compensating balances. The net result is likely to be that correspondent banks will have fewer funds to use for loan participations at the same time that the demand for participation assistance is likely to be growing strongly.

In the past, correspondent banks have done a reasonably good job in meeting the loan participation needs of agricultural banks. There may, however, have been a tendency to turn the flow of participation loans on or off too frequently, depending upon the posture of monetary policy. Moreover, there is no question that the share of the loan market held by commercial banks has been declining, particularly for agricultural credit. Most agricultural banks would prefer to work with correspondents in funding overline and liquidity loan participations,

but there are alternatives. For example, banks can obtain marketable loans and also make loans above their lending limits by securing a loan guarantee from the Small Business Administration or the Farmers Home Administration. They can secure additional liquidity by marketing mortgage loans to the Federal National Mortgage Association, the Federal Home Loan Mortgage Corporation, the Government National Mortgage Association, etc. They can attempt to place longer-term agricultural loans with insurance companies, some of which are in the market for such loans most of the time. In some cases, they can rediscount paper with the Farm Credit System or they can rely on the seasonal borrowing privilege at the Federal Reserve. Many of these options do not channel funds directly to agriculture. They would, however, permit country banks to take care of their business or mortgage loan customers and simultaneously acquire loanable funds which could be used for agricultural loans.

On the other hand, most of the credit needs of agriculture could probably be met within the present correspondent framework. The funds for overline and liquidity loans could be provided directly by correspondents, which are in a relatively good position to purchase loanable funds .whenever required. Alternatively, many country banks have relatively low loan-to-deposit ratios. Increased swapping of participations among these banks, arranged either directly or through correspondents, would provide a means of ensuring that the loan participation needs of these banks will continue to be met. Similarly, to the extent the interest rate on an agricultural loan is too low to satisfy a correspondent, a correspondent could consider swapping loans with a respondent wishing participation assistance. The swap could be for the same dollar amount and at the same interest rate as the respondent's participation loan.

Larger correspondent banks could also develop pools of farm loans in which they sell participations. Or perhaps the pools could be funded with sales'of commercial paper, which might be guaranteed by an insurance company to improve its marketability. Maybe a means could even be found to market agricultural loans directly. Exploratory efforts are presently underway by community banks to devise a means to tap the national or regional money markets to raise capital for banks. If these efforts are successful, the direct marketing of agricultural loans would appear to be a simple step forward. Perhaps a secondary market for agricultural loans could be developed. This secondary market could be similar to those which pres-

ently exist for mortgage loans and for government guaranteed business loans.

Other possibilities exist, but if the correspondent banking system is to continue to be the primary means for meeting the loan participation needs of smaller banks, it must be alert to change and be ready to adapt. The system has been shown to be capable of functioning effectively. What is needed today is a determination by both agricultural banks and their correspondents that the credit needs of rural areas will be met in the future.

Public Policy Toward Agricultural Credit

John E. Lee, Jr., Stephen C. Gabriel, and Michael D. Boehlje

The primary focus of this symposium is on future sources of loanable funds for agricultural banks, an important and timely topic. This paper focuses somewhat more broadly on public policy toward agricultural credit, with emphasis on Federal lending programs. We believe that Federal policies toward farm credit will be an important determinant of the role of various lenders in financing agriculture in the 1980s. The paper reviews the general farm credit situation and prospects and examines the rationale for public, especially Federal, involvement in farm credit. It concludes with a review of the role and status of the major public lenders, especially the Farmers Home Administration.

Summary

Credit has been an important tool of agricultural policy for more than 50 years. Federal credit policies have assured abundant loan funds and competitive interest rates for agriculture and were a major factor in the technological transformation of agriculture to the highly industrialized, productive, capital-intensive sector it is today. Today, farmers depend heavily on borrowed funds to finance annual production and to acquire ownership of land and other capital goods. Projections for the next 10 years suggest sharp increases in farmers' use of debt as production expenses rise, primarily because of inflation

Stephen C. Gabriel is an agricultural economist, Economics and Statistics Service, USDA, and Michael D. Boehlje is professor, Department of Economics; Iowa State University. Views presented here are the authors' and do not necessarily represent the policies of Iowa State University or the U.S. Department of Agriculture.

and expanded production.

A number of policy issues arise out of concerns about the ability of credit institutions to meet the future financial needs of agriculture and about how credit policies may be contributing to increases in land prices and concentration of farm ownership and production. The changed structure and financial characteristics of the farm sector also suggest a need to reevaluate the role of public agencies which lend to farmers.

Historical Background

Modern credit programs specifically directed to agriculture began to evolve out of the depressed conditions in U.S. agriculture following World War I. Farm incomes were low and uncertain, and farm lending was considered risky by both lender and borrower. Under such circumstances, farmers had difficulty obtaining funds. When they did, interest rates were usually higher than for other borrowers, and the terms were often unfavorable and increased the farmer's vulnerability.

The establishment and gradual strengthening of the Farm Credit System (Federal Land Banks, Federal Intermediate Credit Banks, Production Credit Associations, and Banks for Cooperatives) and the predecessor agencies of the Farmers Home Administration, as well as improvements in the management and security of commercial banks, greatly improved the flow of funds to the farm sector. At the same time, the development of income-enhancing and price stabilization programs helped reduce risk and uncertainty in farming, making farm lending more attractive. The resulting ready availability of loan funds, at relatively favorable rates and terms, financed the industrialization of agriculture and transformed it into the highly productive, highly capital-intensive sector it is today.

Today, borrowed funds are considered the lifeblood of production agriculture. Some reasons for the dramatic increase in dependence on credit include:

- Loan funds have been relatively plentiful and inexpensive until recently.
- Farm production expenses have increased sharply (from $19 billion in 1950 to $131 billion in 1980) as input prices have risen, production has expanded, and the share of production

inputs purchased rather than provided on the farm has increased.

- As a result, cash expenses have increased as a percentage of gross farm receipts (from about 60 per cent in 1950 to over 80 per cent today).
- Following from the above developments, net farm income has been a declining share of farm receipts, thus reducing the capability of farmers to fund cash expenses with internal savings. At the same time, farmers now purchase most of their consumption needs, just as nonfarmers do, further reducing internal cash flows available for covering production costs.

Thus, farmers are heavily addicted to a steady flow of borrowed funds to finance their production activities. Ownership costs have also risen as land prices and the cost of machinery and other capital items. have increased dramatically. Many farmers have borrowed heavily to increase the size of their farming operations to realize economies of size or simply to increase income.

Farm sector debt increased from $12 billion in 1950 to an estimated $158 billion on January 1, 1980. The aggregate value of farm assets has also grown dramatically, especially in the last decade. The ratio of debts to assets doubled between the late 1940s and the 1960s and stabilized in the 16-17 per cent range in the 1970s. On small farms (sales of $2,500 or less) that ratio is only about 5 per cent, but it increases for larger farms and is more than 20 per cent for farms with sales of more than $100,000. Of course, for many larger, growth-oriented farms the debt-to-asset ratio is much larger. The operators of these largest farms are most sensitive to costs of debt servicing, changes in interest rates, and fluctuations of cash flow.

The fact that the use of borrowed funds has grown more rapidly than net farm income implies an increasing debt burden. The ratio of debt outstanding to net farm income rose considerably during the past two decades. During the 1960s and early 1970s, debt outstanding was two to three times higher than net farm income. In the late 1970s, that ratio was in the four-to-one and five-to-one range.

In recent years, debt repayment burdens, interest costs, and access to loan funds have become sensitive public policy issues. Farmers will pay over $16 billion in interest charges in 1980, a figure that represents 12 per cent of all farm production expenses. Increases in interest charges have contributed significantly to rising costs of production in recent years. Agriculture has just come through a year

of record high interest rates. In a number of states, concentrated along the northern and western edges of the Corn Belt, commercial banks, especially country banks, have come through two years of high loan-to-deposit ratios, culminating in severe liquidity problems last winter and spring. In districts where commercial banks were unable to meet farm lending needs, the banks of the Farm Credit System grew at phenomenal rates. In 1979, the Farmers Home Administration, the lender of last resort, loaned farmers a record $7.7 billion. These developments occurred despite the fact that 1979 was the second best farm income year on record.

Credit in the 1980s

A recent USDA study [2] focused on likely credit needs and problems in the 1980s. The detailed results of this study will soon be available in a separate report. Highlights include:

Farm production expenses will more than double. Funds needed to finance annual farm production expenses could increase by more than $200 billion over the next 10 years, compared with about $134 billion in total farm production expenses in 1980. Most of the additional funds will have to be borrowed, although there are expected to be some innovations in equity financing. Farm sector debt, which increased from $12 billion in 1950 to an estimated $158 billion in 1980, could be about $600 billion by the end of the decade. However, asset values in farm businesses are expected to rise to over $3 trillion, and the ratio of debts to asset values will not be significantly higher than the 16-17 per cent range of recent years.

Competition for loan funds will remain strong, but agriculture will remain competitive and will be able to attract its fair share of funds. Farm prices and incomes should begin to rise strongly by the middle of the decade, increasing the ability of farmers to compete for production and investment funds.

- Land prices will likely increase rapidly, especially in the latter half of the decade. This will increase the wealth of landowners but will also increase the difficulty of getting started in farming, especially for those having no other sources of income to subsidize the beginning years. The added wealth of existing landowners, combined with tax advantages, will enable them to

outbid other would-be land buyers and thus continue the trend to fewer and larger farms. Higher land prices also greatly increase the flow of debt funds needed simply to refinance the ownership of land, generally into the hands of fewer and fewer owners.

Public Credit Policies for Agriculture

Role of Public Credit Policy for Agriculture

The Department of Agriculture is interested in credit policy primarily as a means of achieving the multiple goals of food and agricultural policy. This means assuring that credit policies 1) are such that farmers have money for producing the food and fiber we need, 2) assure an economically healthy and viable farm sector, **3)** promote efficient use of resources, and 4) enhance the equitable distribution of economic rewards and opportunities. Public credit policies operate through the establishment of rules, regulations, and facilitating institutions for private lenders and by the operation of public lending programs.

There is no specific, articulated national policy on farm credit. Moreover, borrowed funds are still allocated within agriculture and between agriculture and the rest of the economy primarily by the workings of private capital markets. Past initiatives in farm credit policy have generally come from those interested in making more funds available to farmers and rural people at more favorable terms and lower costs. These initiatives have taken the form of improving the performance of private credit markets and lenders serving agriculture, and directly intervening with public lending programs to address needs not being met by private lenders.

The initiatives noted above have generally been successful. The farm sector has enjoyed plentiful supplies of loan funds at competitive costs and terms. These have contributed to the rapid substitution of capital for labor, adoption of capital-intensive technology, increased specialization, increased use of purchased inputs, and, in turn, increased reliance on borrowed funds. Unfortunately, the distortions in credit markets resulting from the many forms of subsidies have had some unintended side effects: misallocation of capital between agriculture and the rest of the economy, overuse of capital in agriculture, overproduction, land price appreciation, and a growing trend to fewer and larger farms.

Does Agriculture Need Special Treatment?

In view of the essential nature of credit to finance production, prospective sharp increases in production costs and land prices, and recent experience with scarce supplies of funds and high interest rates, it is not surprising that farmers and their spokesmen are concerned and press for policies which assure them adequate supplies of loan funds at reasonable costs. Indeed, some argue that this is the most important credit issue of the '80s.

Analysts suggest, however, that the economic health of agriculture is sufficiently sound that farmers will be able to compete with other borrowers and obtain funds at competitive rates. Some even argue that for several reasons farmers may be getting more than their fair share of credit funds, especially when funds are scarce and interest rates rise to ration those scarce funds. This possibility arises for several reasons.

- The banks of the Farm Credit System have unlimited access to the central money markets and thus can continue to lend when banks (especially small banks) may be loaned up relative to their reserves. Moreover, because their interest rates are based on average money costs rather than current costs, interest rates charged by Farm Credit System banks tend to lag private bank rates in rising markets. This tends to insulate FCS borrowers somewhat from market rates and encourage more credit use than market conditions would warrant.
- Country banks historically have loaned from reserves deposited in savings and checking accounts. These were low-cost funds and usually enabled these smaller banks, in turn, to lend to farmers and local businesses below prime rates charged in larger money centers. Thus, farmers were somewhat insulated from the effects of credit crunches and restrictive money policies. This insulation has largely eroded during the last two years as banking regulations have changed and as competitive pressures have forced smaller banks to offer certificates of deposit and other instruments which, in effect, now tie their cost of money more directly to the central money markets. Nevertheless, even during the scarce credit period last year (winter and spring of 1980) farmers continued to borrow from rural banks at rates below those charged by large city banks.

- Public lending institutions lend to farmers at rates or terms usually involving some element of subsidy. These institutions frequently are not responsive to interest rates or money supply signals of markets; consequently, farm borrowers see that money as being cheaper than competitive conditions suggest it should be, and they use more than they would if they had to pay the true market costs.

The net result of these and other factors is that the farm sector likely uses more loan funds and at lower rates than would be suggested by private market conditions. This may lead to more capital investment and increase the capital intensity and productive capacity of agriculture more than otherwise would have been the case in recent decades. This, in turn, may have exacerbated the problem of overproduction and depressed prices, as well as increasing pressure for income support programs and more liberal credit policies.

If excess production capacity is no longer a dominant concern in the future, the overproduction impact of the conditions just described may no longer be a problem. But the question remains whether agriculture needs special credit considerations today. That question is especially relevant if the profile of the farm sector outlined in a number of recent studies — a sector of large-scale firms realizing competitive financial rewards — is accurate. Certainly lending institutions serving farmers must recognize the unique requirements of agriculture: the seasonal nature of production, the critical importance of timing, the year-to-year volatility of prices and incomes, etc.

But the farm sector is no longer characterized by millions of small, relatively poor family farms, all facing inequitable treatment in money markets. Smaller farms today generally have sufficient off-farm income that their total incomes compare favorably with nonfarm family incomes. They are not considered risky borrowers, and they finance most of their needs with internal savings. Their debts are small relative to asset values and repayment capacity. Larger commercial farms are large, capital-intensive businesses earning competitive returns. In view of this emerging reality, is there continuing justification for public credit policies and programs which provide favored treatment for agriculture? If so, under what circumstances and for whom are such policies needed? Answering these questions requires some examination of the implications of alternative credit policies, and especially the implications for future control and struc-

ture of the food system.

There is growing evidence that past and present credit policies, in conjunction with farm policies and especially tax policies, have contributed to increases in land prices. Studies have shown that subsidized interest rates, lower down payments, and longer repayment periods translate into higher prices than one can afford to pay for land. The higher the tax bracket of the purchaser, the greater the benefits of the more liberal credit provisions. Specifically, some have suggested that the liberalization of Federal Land Bank credit in 1971 (reduced down payments and longer repayment periods) contributed significantly to land price inflation thereafter, although research by Baker and Dunn [1] does not support such arguments.

Who is Not Served by Private Money Markets?

In view of the economic and financial prospects for agriculture in the 1980s and the emerging structure of agriculture, what legitimate farm credit needs will not be met by the private markets? The answer depends heavily on what is considered "legitimate." The place to start is to examine who will likely not be funded if the money markets work reasonably well.

One group that will have difficulty obtaining and repaying borrowed funds are the so-called "marginal," or more appropriately "submarginal," farmers, who often lack farming skills or whose access to productive resources is limited. But who is included in the submarginal farm group varies depending on farm product prices, interest rates, and other considerations. In the winter of 1980, when interest rates were unusually high and farm commodity prices were low, many farmers who would normally qualify for credit were temporarily considered submarginal. The situation was made worse by the actual shortage of loan funds in banks. Since that time, however, commodity prices have improved substantially. Consequently, many farmers then considered submarginal became creditworthy again. Thus, there is a continuum of farmers ranging from those with sufficient financial strength and resources to weather the hardest of times to those who could not be expected to borrow and repay funds under any reasonable set of conditions.

Should the fortunes of all farmers be left to the ups and downs of economic conditions — i.e., survival of the fittest? Or are there economic and social reasons for providing some or all of them assistance? The question can only be answered via the political

process. But it may be useful to categorize those would-be farm borrowers who would not be served by a reasonably efficient and competitive farm credit market, and examine some pros and cons of serving them with public lending or with changes in public policies to facilitate their being served by private credit institutions. This examination should take place in the context of the commonly cited goals of agricultural policy outlined in an earlier section of this report.

Those likely to have difficulty in private farm credit markets include:

1. Existing farmers who are submarginal because of economic factors.
   a. Submarginal only under atypical adverse conditions.
      - Efficient-size family farms or smaller.
      - Larger than efficient family farms.
   b. Submarginal under typical conditions.
2. Existing farmers who are temporarily submarginal because of natural disasters.
3. New or would-be farmers who are submarginal in the beginning but who with specialized credit help can graduate to being above marginal under normal conditions.
   a. Beginning farmers.
      - Tenant farmers.
      - Owner-operators.
   b. Limited resource farmers.
   c. Farmers lacking skills or training.

Providing public credit to preserve the normally healthy moderate-size farm temporarily caught in adverse conditions could be consistent with the long-term goals of agricultural policy. Present trends suggest that about two-thirds of the land sold each year is bought by farmers and consolidated into existing farm units. This is the primary source of increasing concentration in the farm sector. If the normally-healthy-but-temporarily-in-trouble farms are allowed to go out of business, it is reasonable to assume that some portion of them will be consolidated into other existing units. Thus, assuring that such farms obtain the funds needed to stay viable would be consistent with the goals of efficiency, preserving a pluralistic agriculture for resiliency and future flexibility, providing economic opportunity for more people, and ultimately assuring food security.

As discussed earlier, there are some risks to the public sector. This problem can be minimized by reducing the subsidy as much as possible, thus reducing the attractiveness of the emergency credit.

If, instead of a moderate-size family farm, the farm in temporary trouble is very large, it is not clear that the same arguments for public credit assistance hold. If the farm was much larger than necessary to achieve efficiency, and if the odds favored some or all of the land being sold in smaller tracts to new farmers or moderate-size existing farmers, there would be no particular public interest in saving the larger farm.

There would appear to be no direct economic reason for offering subsidized public credit to preserve those farms that are submarginal even under normal economic conditions and for whom that does not appear to be a temporary phenomenon. Both the subsidy in the credit program and the inefficient use of resources implied by the farm being submarginal are social costs. However, perhaps one more question should be asked: Is the social cost ultimately greater if the farmer goes out of business? This is not likely if there is alternative gainful employment. But if the displaced farmers or workers end up as a public liability anyway, social costs may be minimized by extension of public credit to keep them in business, at least until better opportunities are available.

The same general comments apply to the farmers in trouble because of natural disasters. That is, it would be consistent with goals of efficiency, competitiveness, and future flexibility to provide public credit assistance to efficient-size family farms. For larger farms the question is how far the public should go in sharing the risks and protecting the interests of the wealthy.

For the third group, those who need specialized help or terms, the appropriateness of public credit assistance depends on the likelihood that they will successfully graduate to private credit and eventually repay the public investment through taxes, efficient use of resources, and contribution to pluralism in the farm sector. It is in these programs, more than any other, that social objectives and economic objectives of policy come face to face.

The issue of assistance to beginning farmers is a difficult one. If there are not resources enough to assist all would-be farmers, who are the lucky ones? How will the selection process affect those who will be farmers in the future? The complexity of trying to assist beginning farmers can be illustrated with the problem created by increases in

land prices. The issue is sometimes put in terms of new credit arrangements needed for beginning farmers who wish to purchase land.

Several economists have shown rather convincingly that the high land prices of recent years are quite rational. In other words, in terms of long-term returns on investment (from farming and from land value appreciation) land is a good buy even at today's high prices. But studies have also shown that if that land is purchased with borrowed funds, the income flow from farming will not cover principal and interest payments during the early years of the loan. This is especially true if the farmer has to draw his own livelihood from those earnings. A USDA study [5] of irrigated lands in the Western Federal Irrigation Districts shows that irrigated land purchased at today's prices would generate adequate returns to begin to cover amortization costs somewhere between the tenth and fifteenth year of a 30- or 40-year mortgage. Emil Melichar [4] uses the analogy of land as a growth stock, an asset which might be an excellent long-term investment but which one could not expect to pay for from the earnings in the early years.

This poses a dilemma. Only those who inherit land or those who can cover payments from other sources of income can begin farming as an owner-operator. Thus, there is a selecting out process, strengthened by the distributional impact of the tax laws, of those individuals and firms who can outbid others for land (and thereby further bid up land values). Not surprisingly, those favored by the selection process tend to be those with high incomes, including operators of large farms with high equity in land already owned. In fact, existing farmers buy around two-thirds of the land sold each year, and thus are the primary entrepreneurs of increased concentration.

The implication is for increased tenant farming unless loans for beginning farmers could be arranged such that repayment schedules are matched with income flows; i.e., postpone more of the amortization to the later years of the mortgage.

But there are dangers. Unless such loans are restricted to those unable to afford early payments and who intend to farm the land over a long period of time, the loans could increase the returns to owner's equity in early years, thus enabling one to bid up the price of land, hold it for a few years while ownership costs are low, and then sell it at a higher price when repayment costs begin to rise. Such a program

could thus worsen land price appreciation unless some safeguards were built into the loan program.

Federal Lending Programs

The Farmers Home Administration

To most people, public credit in agriculture means the Farmers Home Administration. The FmHA program has undergone dramatic change in recent years. In 1960, FmHA administered eight programs, of which farm operating loans accounted for 64 per cent and farm ownership loans accounted for 14 per cent. In 1979, FmHA operated at least 23 programs, with farm operating loans accounting for 6 per cent and farm ownership loans accounting for 5 per cent. Emergency disaster, economic emergency, individual housing, rural rental housing, water and waste loans and grants, and business and industrial development loans each accounted for larger shares of FmHA activity.

This does not necessarily mean that FmHA has neglected its traditional role. The absolute level (as opposed to percentage share) of farm operating and farm ownership loans was record high. What the current situation does point up is that the FmHA has become a giant, many-faceted agency that perhaps has been absorbing programs and mandates (many unrequested) faster than it can maintain a clear sense of purpose and direction. The addition of large loan and grant authorities this year to support the Alcohol Fuels Program merely exacerbates the situtation. More than $14 billion in loan and grant obligations were made by FmHA in 1979. This year, FmHA made obligations totaling nearly fifty times that of 1960.

Who is served by FmHA's programs? By design, the agency is a lender of last resort. That is, its borrowers are supposed to be those unable to obtain funding elsewhere. A recent study [2] of borrower characteristics suggests that in 1979 the farm operating and farm ownership loans were heavily directed to young farmers and those with small net worth and low incomes. Over 68 per cent of the money loaned in the farm ownership program that year went to farmers with less than $12,000 in net cash income and less than $120,000 in net worth. Over 74 per cent of farm operating loan money went to farmers in the same category. In the same year, 50 per cent of the money loaned in each of these programs went to people under the age of 30.

However, the economic emergency loans were distributed a bit differently. The borrowers tended to have low incomes (presumably that is what put them in an "emergency" situation), but over a third of the money loaned in 1979 went to farmers with more than half a million dollars in assets. Farms with gross value sales of over $40,000 represent one-fifth of all farms but received more than two-thirds of the money loaned under the Economic Emergency Program in 1979.

Figures 1 and 2 summarize the distribution of program money loaned to farmers in specified net worth and net farm income groups in 1979. As expected, the targeted operating loan and farm ownership loans are concentrated in quadrant II (low income and low net worth) under two specifications of income and net worth. A larger proportion of Economic Emergency Program money loaned went to farmers with higher farm income and net worth.

The Commodity Credit Corporation

The lending activity of the CCC is important but is secondary to the objectives of the stabilization programs. That probably should continue to be the case so as not to compromise flexibility to achieve fundamental program objectives. Nevertheless, for farmers who use the loan and reserve programs, the nonrecourse loans are an important source of funding. Moreover, the program provides farmers with flexibility to develop their own marketing strategies without having to sell crops at harvest-time to pay off production loans or to obtain operating funds. The CCC also provides loan funds for farm commodity storage and drying facilities.

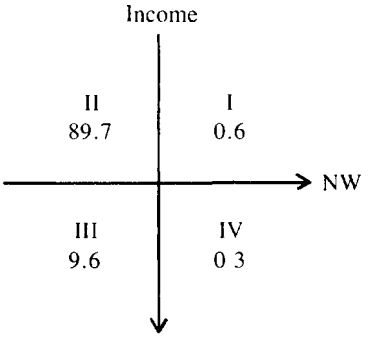
CCC had $4.5 billion in debt outstanding to farmers on January 1, 1980, accounting for 3 per cent of all farm debt. CCC debt for the most part substitutes for debt by other lenders (as opposed to FmHA loans, which are supposed to supplement private lending to farmers). A recurring issue pertains to what interest rates should be charged on CCC loans.

The Small Business Administration

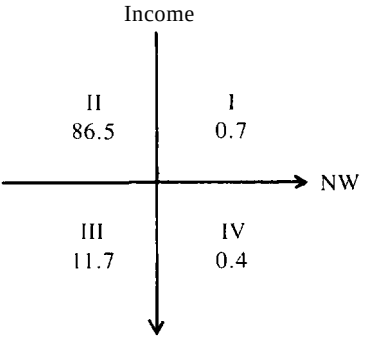
The Small Business Administration, an independent agency, is designed to provide credit to small businesses unable to obtain credit in the private sector. It has authority to provide direct and guaranteed loans to farm firms, although SBA is not primarily a farm lender (farmers began receiving assistance only after a congressional man-

FIGURE 1

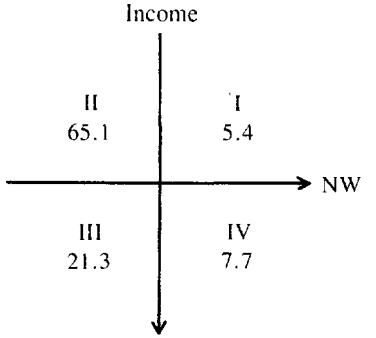
A High Net Worth-Net Operating Farm Income Profile of FmHA Borrowers in Terms of Percent of Program Money Loaned to Each Class of Farmer, 1979*



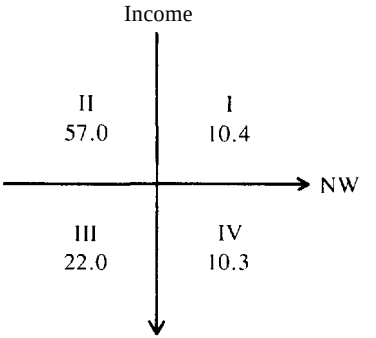
Panel A. Operating Loans



Panel B. Farm Ownership Loans



Panel C. Soil and Water Loans

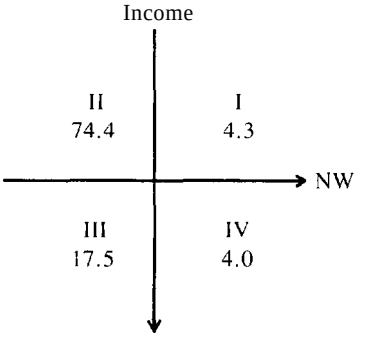


Panel D. Economic Emergency Loans

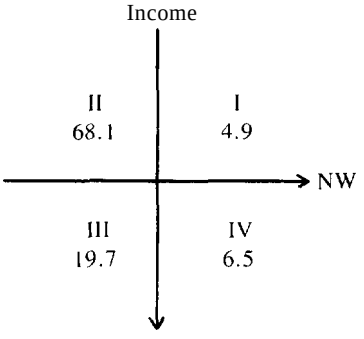
*The coordinates of the points of intersection for each panel are net worth equals $300,000 and net operating farm income equals $22,000.

Quadrants I, 11, III, and IV consist of low income-high net worth, low income-low net worth, high income-low net worth, and high income-high net worth farmers, respectively.

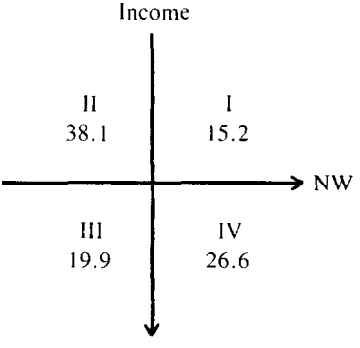
FIGURE 2
A Low Net Worth-Net Operating Farm Income Profile of FmHA Borrowers in Terms of Percent of Program Money Loaned to Each Class of Farmer, 1979*



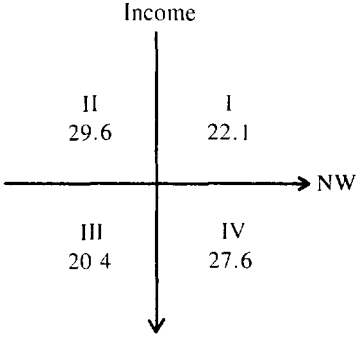
Panel A. Operating Loans



Panel B. Farm Ownership Loans



Panel C. Soil and Water Loans



Panel D. Economic Emergency Loans

*The coordinates of the points of intersection for each panel are net worth equals $120,000 and nei operating farm income equals $12.000.
Quatlrants I, II, III, and IV consist of low income-high net worth, low income-low net worth, high income-low net worth, and high income-high net worth farmers, respectively.

date in 1976).

The stated intent has been to provide funds to farm operators with limited resources and to operators adversely affected by economic and natural disasters. At present, farms with gross annual receipts under $1 million may be eligible for SBA loans. The loans generally contain a subsidy either in the form of below-market interest rates or in lenient terms of repayment. SBA's role has been and will likely continue to be small relative to other agricultural lenders. On January 1, 1981, SBA is expected to hold about 1 per cent of total farm debt outstanding. In addition, Congress recently imposed a requirement that farmers attempt to obtain an FmHA emergency disaster loan before applying for an SBA disaster loan, the SBA loan program which accounts for most of its loans to farmers.

Public Lending: Some Issues

Most public credit programs involve some degree of subsidy, either direct or indirect. They involve some transfer payments from the taxpayers at large to the targeted constituents of the loan programs. It has been suggested that such transfers are justified if they improve the overall performance of the food system and the resulting benefits are eventually captured by the public, or if the target constituency is one that is vulnerable, has suffered past inequities, or for some reasons is considered by the body politic to deserve special help.

The primary issues related to public lending stem from the subsidies involved. The subsidies (lower interest rates, lower down payment, and favorable loans) have the effects of reducing or shifting risks, reducing apparent costs, and supplementing income.

Risk Sharing. Often the issue is how risks in farming will be split between farmers and the government—that is, the public. These risks can be shared in such devices as CCC nonrecourse loans (meaning that if prices fall below loan levels, the crop under loan will always be accepted as full collateral), disaster provisions of support programs, and loans from the FmHA or SBA, to name three. The extent of risk sharing is managed by the degree of subsidy provided. If the subsidies are large, budget costs can be high and there may be undesirable side effects. For example, private investment decisions may be made with false signals of true risk and thus of true cost, leading to overinvestment, misuse of resources, increases in land values, and an ultimate flow of benefits to landowners. Again, public sharing of private risk

is a transfer payment from taxpayers at large to those whose risks are reduced.

There are several issues related to the risk-sharing aspect of public lending programs:

- Is risk-sharing through public credit programs achieving the stated objective? Is that objective clear? If so, are credit programs the most efficient means of achieving the objective (for example, what is the comparative efficiency and effectiveness of disaster loans vs. crop insurance, both of which can be subsidized and the risks shared to any degree desired)?
- Loan guarantees stimulate flows of funds to specific target groups by shifting the risk from private lenders to the public. Ultimately this means more funds at lower costs to the borrower than would otherwise be the case, and thus causes a reallocation of funds in the marketplace from what would otherwise be the case.

Recent research [2] suggests that the very fact that FmHA is a lender of last resort tends to expand farmers' perceptions of their borrowing capacity, allowing adjustments in the production and financial organization of farm firms. Increased borrowing capacity may encourage farmers to adopt riskier production and marketing strategies as well as more aggressive financial plans.

The emergency lending programs tend to reduce the overall risks which farmers face. These risk-reducing effects tend to encourage greater production as well as consolidation and growth. Hence, the emergency lending programs of FmHA and SBA have contributed to the recent trend toward fewer and larger farms in the U.S. The magnitude of the impact may be suggested by the growth in importance of emergency loans. Currently, total public (SBA and FmHA) emergency loans outstanding constitute almost 10 per cent of total farm debt outstanding.

The emergency lending programs have been referred to as free or relatively low-cost insurance programs, with the attendant overuse of any such free goods. The implication is that these programs substitute for actuarially sound insurance programs and discourage the development of other risk management strategies.

Interest Rate Determination. With the current extreme volatility of interest rates in capital and money markets, inflexibly priced FmHA

and CCC debt funds can sell alternately at a subsidy or a premium within a relatively short period of time. This situation compromises greatly the orderly marketing of debt capital. Improved reporting systems are needed to be able to determine market interest rates on farm debt more readily. Policy makers could then adjust government rates to more accurately reflect the cost of alternative source of debt funds.

Insured Loans vs. Guarantees. If the public sector is to augment the amount of funds available to farmers, should it do so through insured loans or by providing a guarantee to encourage private sector lenders to service a particular segment of the industry? Insured loans can more easily be targeted to specific groups or individuals, but they typically involve higher public sector administrative costs. Loan guarantee programs can exploit the expertise of the private sector to initiate the loan request and determine the credit worthiness of the customer; in this fashion the government agency is less restricted in terms of its ability to extend funds and implement a program by personnel limits or availability, since the private sector is performing a number of the loan administration and servicing functions. Some concern has been expressed recently, however, that private lenders can earn very high rates of return on guaranteed FmHA loans by selling the guaranteed portion in secondary markets.

Consequently, these lenders have a great incentive to declare a prospective borrower as not credit worthy and then suggest that they consider taking out an FmHA guaranteed loan. Although the higher rate of return may be justified by the risk borne by the lender, this situation should be considered carefully when analyzing the future role of FmHA loan guarantees.

One will note, however, that FmHA loan guarantees for farmers constitute a low percentage of total farmer program obligations. In 1980, for example, guaranteed loans were only 3 per cent of both total Operating and Farm Ownership loans and 5 per cent of all Economic Emergency loans. Reasons suggested for such a low volume of guaranteed loans include a lack of interest on the part of lenders, since the relatively small loan sizes make it difficult to market such loans in the secondary market, and the relatively high negotiated interest rate on guaranteed loans compared with FmHA insured loans, which discourages farmers from participating. These impediments to the expansion of the use of FmHA loan guarantees should be investigated if it is determined that such an expansion is desirable.

Terms. The interest rate, repayment schedule, and loan-to-value ratio are important aspects of implementing a public sector credit program. Historically, public sector direct loans have included an interest rate subsidy which reflected, in part, the "income supplement" dimension of these programs. More recently, attempts have been made to charge interest rates that more nearly reflect market rates to most borrowers but still subsidize the rate for certain individuals. A key concern with the subsidized rate is the incentive the subsidy provides to borrow and utilize more funds than would occur if market rates were charged. Furthermore, it is difficult to encourage public sector borrowers to move to private sector lenders when they can qualify if there is a dramatic differential in the interest rates they must pay. In addition, it is not clear how much benefit is obtained from subsidized interest rates in terms of improved loan performance. A better procedure for reducing the cash flow and repayment pressures may be to lengthen the term of the loan, thus reducing the annual principal payment, rather than lowering the rate of interest. Deferred or variable repayment programs are also proposed to assist beginning farmers. However, a recent study at Iowa State University [3] suggests that deferred principal payment programs may not be as important as other strategies, such as enterprise diversification and off-farm employment, in improving the beginning farmer's chances of success or his financial progress in terms of income or net worth generation.

The size of the loan to be made must also be carefully evaluated. Changing economic conditions in agriculture as well as general inflationary trends require periodic updating of maximum loan limits. In addition, it would be desirable to evaluate the implications and impacts of 100 per cent financing—i.e., lending the borrower all the funds necessary to purchase the asset. The repayment implications of such financing terms as well as their impact on probabilities of success and/or failure should be evaluated. It is not clear that 100 per cent financing, particularly to purchase assets like real estate that at current market values generate low cash returns, is a desirable strategy from either a private or a social perspective. Such a high loan-to-value ratio for an asset that generates a low cash income certainly increases the probability of encountering cash flow difficulties and delinquencies or defaults.

Qualification criteria. If one expects to target the benefits of a particular program to a certain group of people, it is essential that the

qualification criteria match the characteristics of this group. For example, it is not clear that past Farmers Home Administration programs, particularly in the economic emergency area, have systematically used sufficiently restrictive criteria to target the benefits to those that the programs, according to legislative intent, were to serve. The "credit elsewhere test" needs further elaboration and a more explicit operational definition if it is to be used as the criterion for eligibility for certain loan programs.[1] More objective measures of financial performance and characteristics (debt-to-asset ratios, coverage ratios, etc.) might possibly be investigated as a means of determining eligibility to reduce the subjective nature of the credit elsewhere test. However, it is clear that subjective judgement will still be needed to implement any selection criteria as to qualification for various loans. More explicit information on the characteristics of the borrowers from public agencies, particularly the Farmers Home Administration, would be extremely useful in evaluating the effectiveness of targeting the benefits of various programs to individuals with particular characteristics.

Program Staffing and Breadth. For a program to be effectively administered and implemented, it must have a focus as well as adequate personnel resources. Current criticisms of the Farmers Home Administration as to program implementation would appear to focus on symptoms rather than the root problem. One of the Possible causes of inconsistency in the program implementation is the diversity of programs offered by the agency, including farmer programs, community development programs, housing programs, and now energy programs. Implementing such a diverse set of programs, periodically adding new lending authorities, without the funds to add adequate staff, quite predictably would result in problems in implementation.

Performance Evaluation. To adequately evaluate the performance of government loan programs, a system to monitor successes and failures must be developed. Documentation of the default rate on government loans is not adequate in assessing performance. The personal and financial characteristics of those who default must be determined and compared to borrowers who have exhibited loan performance and financial progress. Furthermore, an accurate evalu-

[1] On June 2, 1980, legislation was passed which tightens the "credit elsewhere test" for economic emergency loans.

ation of the contribution of a government loan program would include an assessment of the likely success rate if such a program did not exist.

For example, a comparison of beginning farmers who obtain funds from commercial lenders and those who utilized Farmers Home Administration programs in terms of financial performance, default or delinquency rate, etc. would be useful to assess differences, if any, in performance of similar borrowers from the private sector compared to the public sector. This assessment must also recognize that default and delinquency ratios probably overstate success rates, since periodic and perpetual refinancing of delinquent accounts does occur.

Public Policy and Private Sector Lenders

Rural Commercial Banks

The problems of small country banks may be such that their importance as agricultural lenders may decline in the future. This may be especially the case in those regions which had serious bank liquidity problems during 1979 and 1980. Will these banks gradually become more specialized lenders, focusing on that part of the market serving small, part-time farmers and local merchants and dealers? If, to overcome their loan size limits, country banks develop major relationships with large banks, will they lose some of their traditional independence and operating freedom and become increasingly the local service outlet for the larger banks? In a sense, small country banks may face some of the same threats as the family farm. To minimize that possibility, should public policy be directed to giving special attention to the regulatory problems of small banks, including giving them assured access to money markets through FICB's and other means?

Role of the Farm Credit System

The banks of the Farm Credit System, with virtually unlimited access to funds in'the central money markets and unconstrained by usury laws and banking regulations, have been the most aggressive gainers in recent years in shares of farm lending. There is no question that the Farm Credit System has been progressive and innovative in developing new approaches to meeting farmers' unique needs. The policy questions are twofold: Have the banks of the Farm Credit

System been too liberal in extending credit, thereby contributing to land price increases and to further concentration in farming? And is it consistent with sound national monetary policy to have what has become a large second banking system operate outside the purview of the monetary authorities. If the system continues to grow at the expense of other lenders and if monetary authorities continue to give high priority to fighting inflation, these issues could become more visible and sensitive in the 1980s.

Secondary Markets for FmHA Paper

Only a small portion of loans are made directly by FmHA. Funds for direct loans come from the U.S. Treasury via FmHA budget appropriations. The majority of FmHA loans are insured loans. FmHA uses revolving funds for the accumulation and distribution of insured loan funds, financing them primarily through payments of outstanding FmHA loans, congressional appropriations, and the sale of certificates of beneficial ownership (CBO's).

FmHA initiated its guaranteed loan program in 1973 to allow private lenders to make loans to less credit worthy borrowers. These private lenders make and service the loans, with FmHA guaranteeing up to 90% of the loan amount. Guaranteed loans accounted for 10 per cent of the total loans and 2 per cent of the farmer program loans obligated in 1979, with the majority made under the business and industry program.

The guaranteed loan program can be attractive to banks and other private lenders. The lenders can resell the guaranteed portion of the loan, often at a discount. Thus, returns can be quite high on the portion retained. The private lender must also service the loan. If the accounts of guaranteed loans handled by a bank are sufficient (currently $1 million or more) the paper can be sold through Fannie Mae. Again, this can be very attractive for banks, but only if the value of guaranteed paper for resale is great enough.

The relative emphasis is that FmHA should give to guaranteed loans compared to insured or direct loans is an important issue. If there is an interest rate subsidy intended, there is little incentive to FmHA to move toward more guaranteed loans. FmHA can always borrow more cheaply from the Treasury than most lenders' going rates. To move to more guaranteed loans would mean eliminating the direct subsidies on loans, but there would still be indirect subsidies in the form of the risk shifted from private lenders to the public. This

usually means that the borrower gets the money at something less than the true cost represented by the risks involved. If this is not the case, it is questionable whether the loan should have been made through FmHA in the first place.

A Look to the Future

Most analysts seem to agree that while credit needs and demands will be large in the 1980s, the funds markets and private lenders will be able to serve commercial agriculture well. Moreover, the prospects for a robust, growth-oriented farm sector suggest that farmers will be able to borrow, use, and repay those funds without undue difficulty. The key to this scenario, of course, is that inflation be brought under control. This is not to say that farmers will always be happy. There will be periods of very high interest rates, and farmers (and perhaps their bankers) will be back in Washington seeking relief. There will also be the adjustment problem for small banks and questions about the appropriate policies of Farm Credit System banks.

But perhaps the more fundamental farm credit issues of the next several years will be those dealing with the role of public lenders to agriculture and what to do about minimizing undesirable side effects of credit policies, especially the structural and resource-misuse impacts of subsidized credit. If the concerns are taken seriously, one could envision proposals for such actions as scaling back FmHA programs and targeting them more precisely on those potentially viable small, beginning, and minority farms that genuinely need help, shifting some of the risk-sharing function from emergency loans to sound insurance schemes, and taking a variety of steps to minimize land price increases. Steps consistent with this latter objective could include reducing subsidized credit generally, eliminating subsidized credit to larger-than-efficient farms, apply more credible "credit-elsewhere tests," and shifting more to guaranteed loans with no interest rate subsidy.

Will any of these things happen? At this point, the crystal ball is not very clear.

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Commentary

Dale Stansbury

John Lee's paper makes many valid points and raises several unresolved issues that I want to consider briefly. In order to put the discussion in perspective, the first issue that I will consider is John's statement, "There is not a specific, articulated national policy on farm credit."

It is true that we do not have a document entitled, "National Agricultural Credit Policy," but we do have a national food and agricultural policy which contains a well developed credit component. Our policy in the simplest terms is to ensure adequate food and fiber at reasonable prices while ensuring that farmers have fair returns. In order to achieve these ends, we have a long-standing policy that farmers need access to adequate credit at reasonable terms.

Our policy views credit as a tool, with the objective being agricultural production. The policy generally takes a neutral attitude toward who makes the loans, and for this reason does not directly address the more narrow focus of this Symposium — Future Sources of Loanable Funds for Agricultural Banks. However, our national agricultural credit policy does affect loan fund availability, and some programs have uneven effects on various lenders. So, as I discuss the paper, I will try to relate the general policy to the bank funds question.

Historic Development

In response to economic distress in agriculture, uncertainty of credit supply, and inadequate terms for the credit that was available, all three national parties — Democratic, Republican, and Bull Moose — included an agricultural credit plank in their 1912 party platforms. This was translated into legislation with the passage of the Farm Loan

Act in 1916. In addition, the Federal Reserve Act included some special provisions for agricultural lending.

The Farm Loan Act is the predecessor of the Farm Credit System. However, there was no provision for delivery of production credit in the original Act. Banks and other existing institutions were expected to carry out the credit delivery and to use the Federal Intermediate Credit Banks for discounting. However, the agricultural depression of the '20s was so severe that the credit problems of farmers worsened and bankers never picked up their discounting option.

In 1933, the Consolidated Farm Credit System was established, and new authority was provided for Production Credit Associations. While this action did not exclude banks from the FICB discount window, it did result in 50 years of animosity between banks and PCA's.

Two other actions started with the New Deal are of importance to agricultural credit. First, there was the Resettlement Administration, which would ultimately evolve into the Farmers Home Administration. The early object was to resettle poor people from cities on farms and; with passage of the Bankhead Jones Farm Tenant Act in 1935, it broadened its effort to provide farm-ownership opportunities, especially for farm tenants. The other action is probably of greater consequence for agriculture credit — enactment of the Agricultural Adjustment Act. The subsequent stability of agricultural prices and income has been very important to the growth and development of our agricultural credit system.

However, the credit programs and underlying farm policy initiatives languished until the economy turned around with the advent of World War II. In fact, takeoff by the Farm Credit System didn't occur until the late '60s, and FmHA has only recently shown a sharp increase in lending.

One brief aside. I don't believe that agricultural credit is the principal determinate of the technological transformation of agriculture. Credit is an important lubricant in that it eases and facilitates, but it is not a causual factor in itself. The expansion of demand, economic recovery, and improved and stabilized agricultural incomes, starting with the war effort, caused the technological change. These same factors also stimulated the growth and development of agricultural credit in this country.

Current Situation

The keynote paper by Peter Barry has very capably described the current situation, so I want to look at only two points — off-farm income and shifts among lenders.

I have some problems with John Lee's discussion of off-farm income. The breakout of farms with sales of $2,500 or less is in my mind an extraneous matter to commercial credit for agriculture. Any agricultural credit policy discussion can concentrate on farms with $40,000 or more. There are financial service needs by rural residents, but in most cases these are not agricultural credit needs. In many cases, we are dealing with social problems whose inclusion in credit discussions is a disservice to both issues. Second, John's discussion of off-farm income to service agricultural debt would seem to be an internal subsidy that could result in misallocation of resources just as John says a public subsidy does. I believe off-farm income is a legitimate consideration for loan officers in making loans, but not for overal! agricultural credit policy.

The recent shifts in market share of agricultural credit show the Farm Credit System becoming more dominant, banks barely holding their own or slipping, and government lending for production credit growing sharply. The reasons are fairly obvious. The Farm Credit System has fund access and is a single-purpose lender — agriculture. 1 don't see them having any price advantage since farm credit interest rates are often higher than those of other lenders. Their advantages lie in access to funds and singleness of purpose.

The bank problem is lack of funds and, perhaps more importantly, expanding opportunity for fund use. The improvement in the money market makes it easier for funds to flow away from rural banks than for rural banks to attract funds. Also, rural bankers are not a homogeneous group all of whom are dedicated to lending to agriculture. Most are good businessmen who find it more logical to invest in secure T-bills at 18 per cent than to deal with uncertain farm loans at 15 per cent.

The surge in FmHA lending for production is troublesome and raises questions about our system. However, if you look more closely, this surge is for emergency credits of one type or another going back to the Emergency Livestock Credit Act of 1974. During the drafting of that Act it was sometimes facetiously referred to as the Bankers' Relief Act. 1 would suggest that this Act and the subsequent Economic Emergency Credit Act have relieved agricultural lenders

—banks as well as the Farm Credit System—of many problem loans. The more important question is what the Federal program is being used for rather than its size. However, let me also say that the viability of support institutions is critical to our agricultural well-being. I'm asking, how much help should there be?

John raised several interesting side issues about agricultural credit including misallocation of resources, overuse of capital in agricultural, over-production, land inflation, and the fact that credit abets concentration. Dozens of books and conferences have been devoted to these issues. There is no way to fully discuss these issues here. However, permit me to state that the market, our tax policies and stabilization programs, plus the fact that the rich have an advantage in a market economy are more important in these developments than credit policy.

I began by suggesting that our principal policy is to ensure that agriculture has adequate credit. I personally believe that agriculture will be able to attract the credit it needs and, further, will be able to pay the going rate. The question is the role of banking in the future of agricultural credit. In all likelihood the Farm Credit System will become more dominant. Fewer banks will be able to provide adequate credit to meet farmers' needs because of their size, fund limits, and competing demands for loans.

Correspondent banking relationships can't fill the gap. These arrangements are too inefficient and individualized to serve the demand. However, I do think that banks need and must have better access to the FICB discounting. Again, the national objective is service to agriculture, not institutional glorification. Both sides must recognize that they can be complements rather than pure competitors. Further, those farm credit loans usually end up as bank deposits—as loanable funds for banks. 1 want to point out that nonagricultural rural America has a more serious credit deficit than does agriculture. It is imperative that rural banks service this need, because there is no alternative.

The questions about Federal subsidies and Federal loan programs will resolve themselves. The problem of the budget deficit is increasing accountability for all spending programs. We are already seeing this in the case of tightened standards for the Economic Emergency Program, failure to achieve highly subsidized rates for CCC storage loans, and a reduced role for SBA in agriculture. Given time, even government can be logical, and I'm sure that our agricultural credit system will evolve to serve national needs.

6
The Federal Reserve Seasonal Borrowing Privilege

Emanuel Melichar

In 1973, the Federal Reserve Board decided that banks could appropriately use the discount window to replace some of their larger seasonal outflows of funds, provided they lacked reasonably reliable access to national money markets that could otherwise be employed for this purpose. An extensive reappraisal of the discount mechanism conducted earlier by a committee of Board members and Reserve Bank presidents had indicated that banks with deposits under $100 million usually lacked such access, and that many somewhat larger banks, with deposits up to about $500 million, also lacked reliable access during periods of monetary restraint.

This imperfection in financial markets obviously placed the nation's smaller banks at a disadvantage in raising nonlocal funds to meet development credit demands as well as the shorter seasonal outflows; however, the committee concluded that long-term credit should not be to banks supplied through the discount window. But it did recommend that a seasonal borrowing privilege be established to provide smaller banks with a reliable source of funds to meet regularly recurring short-term outflows of funds.

As implemented on April 19, 1973, Federal Reserve guidelines defined a seasonal outflow of funds as a predictable annual loss of funds resulting from a combination of changes in deposits and loans. To qualify a bank for seasonal borrowing, the outflow would have to exceed a specified percentage of the bank's annual-average deposits, set at 5 per cent, for a specified minimum time, set at eight weeks.

The analyses and conclusions are those of the author and do not necessarily represent those of the Board of Governors or of other members of its staff.

The qualifying bank could borrow funds equal to the amount by which the outflow exceeded the threshold level. To prevent banks from borrowing simply to relend the funds in money markets, banks were originally prohibited from borrowing while also selling Federal funds.

Seasonal borrowing was used to a considerable extent in 1973 and 1974, but then declined to rather nominal levels in the next two years. While the reduction in borrowing resulted at least in part from easier monetary conditions, other factors thought to be involved included reduced seasonality of fund flows, uncertain eligibility of the larger small banks, and the prohibition on selling Federal funds. These considerations led the Board to revise the guidelines in August 1976.

The size of seasonal outflows at banks was found to have fallen sharply, and so the qualifying threshold was lowered for most banks. All banks with deposits under $500 million were made eligible, but higher qualifying thresholds were set for the larger of these banks. The new — and still current — thresholds were set at 4 per cent of the first $100 million of deposits at a bank, 7 per cent of the next $100 million, and 10 per cent of deposits over $200 million. The minimum duration of a qualifying outflow was reduced to four weeks. Finally, studies indicated that most small banks had become year-round sellers of Federal funds even as their overall liquidity had declined, as they had over time shifted to keeping more of their secondary reserves in this highly convenient and liquid form, rather than in U.S. Treasury bills. Given this operating practice, the Board decided to permit banks to continue their normal sales of Federal funds while borrowing under the seasonal privilege.

The amount of seasonal borrowing for which a bank qualifies is calculated from data for several recent years. First, the bank's typical pattern of deposits and outstanding loans over the course of a year is determined. Next, a measure called net fund availability is calculated by subtracting loans from deposits, usually on a monthly-average basis. After the month of peak fund availability is identified, the level of seasonal outflow in each of the other months is simply the amount by which net fund availability in those months has fallen from its annual peak. A bank qualifies for seasonal borrowing in the months in which, and in the amounts by which, seasonal outflow exceeds the thresholds specified in the guidelines.

Potential Seasonal Borrowing, 1973-1979

For each member bank, several years of past loan and deposit data have each year been used to estimate potential qualification for and amount of seasonal borrowing. Technically, the weekly loan and daily deposit data reported by each bank were converted into monthly averages, and then the Census Bureau's X-11 seasonal adjustment program was used to quantify the seasonal variation in that bank's net fund availability.

Table I indicates that under the original guidelines, 34 per cent of member banks potentially qualified for seasonal borrowing in 1973. Within three years, however, the relative size of seasonal outflows had fallen so much that only 25 per cent qualified. The 1976 changes in guidelines about doubled the number of qualifying banks, with changes in the threshold and in the minimum duration of outflow contributing about equally to the increase. But further reductions in the relative size of outflows has again reduced the number of potential qualifiers.

As also shown in Table I, banks involved in financing agriculture were much more likely to qualify for seasonal borrowing. Potentially qualifying banks thus accounted for a much greater proportion of farm loans than of loans in general—in 1979, for 27 per cent of farm loans compared with 11 per cent of all loans. However, decreasing seasonality has also been eroding the farm loan coverage, and only the 1976 change in guidelines made it possible for the relative coverage of 1979 to equal that originally found in 1973.

Other factors besides the relative degree of involvement in farm lending affect the incidence and relative size of seasonal fund outflows at banks. Two additional factors are bank size and location. For instance, smaller banks tend to serve a less diversified market area and are therefore more likely to experience a seasonal divergence in their flows of deposits and loans. Some regions have a more seasonal type of agriculture or more seasonal businesses, such as resorts. These three factors—farm loan ratio, size of bank, and region—are obviously interrelated. Multiple regression analysis was therefore used to help sort out and quantify their separate net influences on the probability that an eligible bank would have seasonal outflows large enough to qualify for seasonal borrowing in 1979. Results are shown in Chart I.

Regional differences proved to be by far the most important of

TABLE 1
Potential Qualification for Seasonal Borrowing

	Original guidelines		*Current guidelines*	
	1973	*1976*	*1976*	*1979*
Potentially qualifying banks:				
Number	1,931	1,478	2,729	2310
Nonagricultural	1,030	875	1,763	1,681
Moderately agricultural	432	302	516	383
Heavily agricultural	469	301	450	246
As a percentage of—				
All member banks	34	25	47	41
Nonagricultural	25	20	41	39
Moderately agricultural	44	32	54	47
Heavily agricultural	68	50	74	54
Percentage of member bank loans at potentially qualifying banks:				
Total loans	8	6	13	I I
Farm loans	27	19	36	27

Note: Banks are classified by their ratio of total farm loans to total loans, as follows:

Under 25 percent ..... Nonagricultural
25 to 49 percent ..... Moderately agricultural
50 percent and over .... Heavily agricultural

these three factors, with eligible banks in the Northeast, Upper Midwest, and Far West being much more likely to qualify for seasonal borrowing than banks in other areas. Size of bank was also somewhat more important than farm loan ratio, as greater diversification and the graduated qualifying threshold combined to make it rather unlikely that the larger banks would qualify.

In a similar analysis performed in 1973, involvement in farm lending was more importantly associated with incidence of seasonal outflows. The new result confirms that seasonality at agricultural banks has declined significantly.

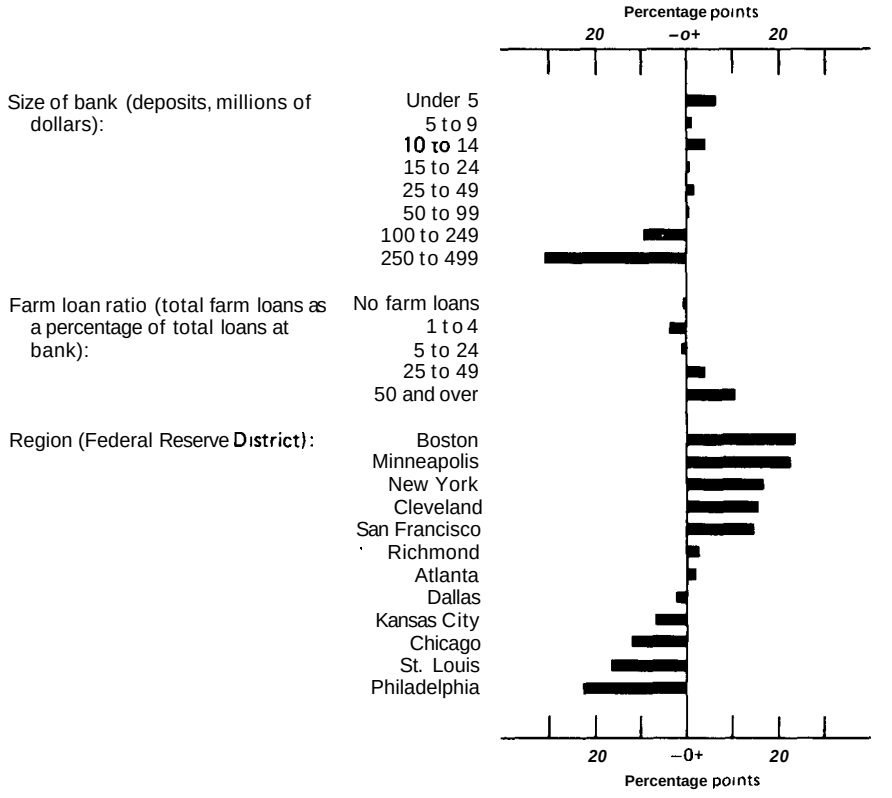
The amount of potential seasonal borrowing at each bank was estimated on a monthly basis. For each year, two summary measures

CHART 1

Estimated Net Influences on the Percentage of Banks Qualifying for Seasonal Borrowing, 1979

National average = 43 percent

Percentage points subtracted or added by—



shown in Table 2 were then calculated. The first of these, annual-average borrowing, is indicative of relative importance in overall banking operations. However, because many seasonal outflows are relatively large but short in duration, annual-average borrowing does not fully reflect the value of seasonal borrowing. A second summary measure, peak-month borrowing, is better at showing this aspect of borrowing. It is the sum of the amounts borrowed during the peak month of borrowing at each bank, regardless of the calendar month in which that peak occurred.

As shown in Table 2, total potential seasonal borrowing has remained at around $600 million on an annual-average basis, give or take $100 million, since 1973. The 1976 change in guidelines, which nearly doubled the number of qualifying banks, had a smaller effect on the amount of potential borrowing. The bulk of the increase in amount resulted from reducing the qualification threshold and adding some larger banks. The accommodation of very short qualifying outflows — four to seven weeks in duration — added very little to annual-average potential borrowing.

While potential borrowing was as large in 1979 as it had been in 1973, the 1979 figure has much less relative importance in view of the inflation and economic growth of the intervening years.

Because several interrelated factors affect the relative importance to different borrowing banks, multiple regression was again used to estimate the net influence of each factor, with results displayed in Chart 2. Deposit size was the most important of the three factors analyzed, with very small qualifying banks tending to have much more severe fund outflows. Qualifying banks heavily involved in farm lending also usually have to cope with large outflows.

In line with this result, Table 2 shows that it is at agricultural banks that seasonal borrowing can have its most noticeable relative impact on the supply of loanable funds, especially during the months of peak outflow. Its overall potential importance among nonagricultural banks is miniscule. However, a considerably different picture emerges when one looks at qualifying banks only. Seasonal borrowing can provide significant amounts of funds to both nonagricultural and agricultural qualifying banks, although heavily agricultural banks tend to qualify for larger relative amounts.

TABLE 2
Potential Seasonal Borrowing

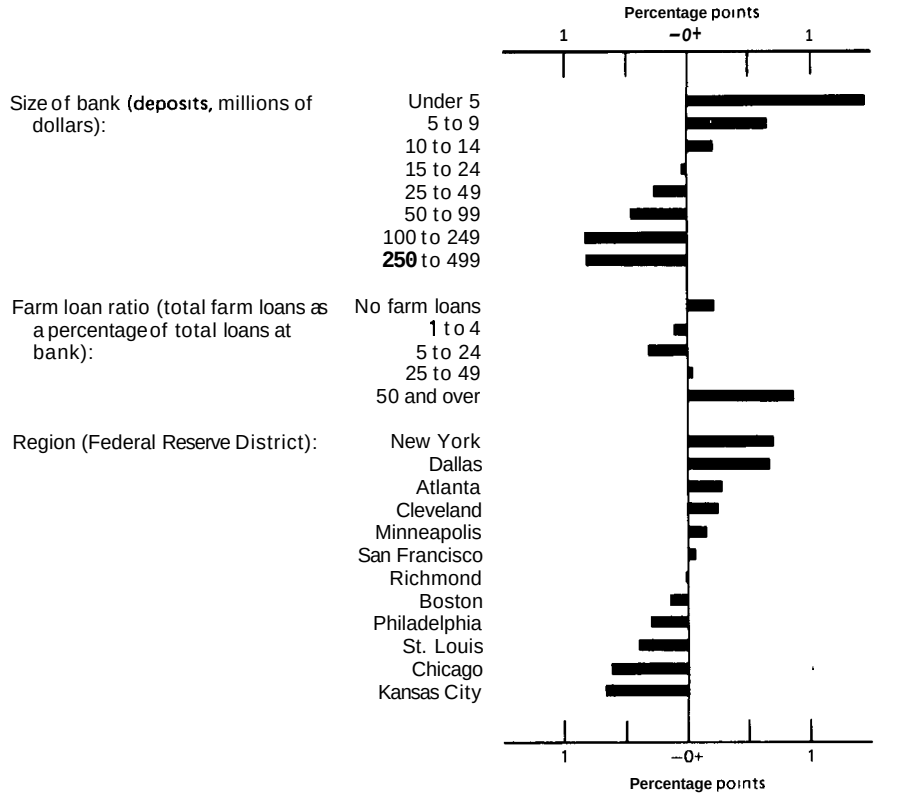
	Original guidelines		*Current guidelines*	
	1973	*1976*	*1976*	*1979*
Potential seasonal borrowing (millions of dollars):				
Annual average	597	506	736	587
Nonagricultural	440	400	594	477
Moderately agricultural	80	55	77	64
Heavily agricultural	77	51	65	45
Peak month	1,732	1,589	2,389	2,066
Nonagricultural	1,319	1,278	1,976	1,740
Moderately agricultural	214	172	235	202
Heavily agricultural	199	138	178	124
Average duration (months)	5	5	4	4
Annual-average borrowing as a percentage of loans at—				
All member banks	.2	.1	.2	.1
Nonagricultural	.2	.1	.2	.1
Moderately agricultural	1.2	.6	.9	.5
Heavily agricultural	2.7	1.4	1.8	1.1
Potentially qualifying banks	2.6	2.0	1.4	1.1
Nonagricultural	2.3	1.9	1.2	1.0
Moderately agricultural	3.5	2.3	1.9	1.3
Heavily agricultural	4.7	3.7	2.7	2.2
Peak-month borrowing as a percentage of loans at—				
All member banks	.6	.4	.6	.4
Nonagricultural	.5	.3	.6	.4
Moderately agricultural	3.2	1.9	2.7	1.6
Heavily agricultural	7.1	3.9	5.1	3.0
Potentially qualifying banks	7.6	6.4	4.6	3.7
Nonagricultural	7.0	6.1	4.2	3.6
Moderately agricultural	9.4	7.3	5.7	4.2
Heavily agricultural	12.0	10.0	7.5	6.0

CHART 2

Estimated Net Influences on Relative Amount of Potential Seasonal Borrowing, 1979
(Potential seasonal borrowing/Total loans)

National average = 1 6 percent

Percentage points subtracted or added by—



Seasonal Borrowing in 1979

Analysis of actual seasonal borrowing is greatly enhanced by the ability to compare it with potential borrowing, which provides a measure of the relative degree to which the privilege is being utilized by different categories of banks.

Table 3 indicates that 482 banks borrowed under the seasonal privilege in 1979, about a fifth of the potential number. These banks, however, held farm loans equal to 40 per cent of the farm loan total at potentially qualifying banks.

Seasonal borrowing in 1979 totaled $144 million on an annual-average basis, equal to 25 per cent of the estimated potential. The peak-month total, however, represented a substantially higher proportion of the potential—38 per cent. At the banks which borrowed, the funds obtained equalled about 1 per cent of loans outstanding on annual-average basis, about the same as the percentage estimated for potentially qualifying banks. But in the peak borrowing months, the seasonal funds equalled over 5 per cent of loan volume, half again as much as had been estimated for all potential qualifiers. Thus, actual borrowing tended to have a sharper peak and shorter duration than the estimated potential borrowing.

Regression analysis, with results shown in Chart 3, was used to estimate the net influence of several correlated factors affecting whether or not a qualifying bank actually borrowed in 1979. The larger banks, agricultural banks, less liquid banks, and banks qualifying for relatively greater borrowing were more likely to have borrowed. A recent article suggested that banks owned by holding companies were using the privilege in disproportionately large numbers; however, as shown in Chart **3,** this factor exhibited no significant influence when considered simultaneously with the other factors. (A similar analysis limited to banks in the Minneapolis District, where it appeared that members of holding companies borrowed in relatively greater numbers in 1978, also showed no net influence for holding company membership in 1979.)

By far the most important factor associated with the incidence of borrowing by potentially qualifying banks, however, was the Federal Reserve District in which the banks were located. Qualifying banks in the Boston, Philadelphia, and Kansas City Districts were much more likely to have borrowed, whereas those in the Cleveland and Chicago Districts were far less likely to have done so. (Actual and potential numbers of borrowing banks and amounts borrowed by Federal

TABLE 3
Incidence of Seasonal Borrowing, Actual and Potential, 1979

	Actual	*Potential*	*Actual as per cent of potential*
Borrowing banks:			
Number	482	2,310	21
Nonagricultural	282	1,681	17
Moderately agricultural	112	383	29
Heavily agricultural	88	246	36
As a percentage of—			
All member banks	9	41	21
Nonagricultural	7	39	17
Moderately agricultural	14	47	29
Heavily agricultural	19	54	36
Percentage of member bank loans at borrowing banks:			
Total loans	3	11	25
Farm loans	11	27	40

Reserve District are shown in Appendix Table 1.)

Part of this regional variation stems from administrative differences among Federal Reserve Banks. At some Reserve Banks, the possibility of qualification for seasonal borrowing is explored for most banks expressing interest in using the discount window, and credits are extended under the seasonal privilege whenever appropriate. But the Chicago Bank has traditionally provided adjustment credit for longer periods—up to nine months—than the other Banks, and it has not shifted much of such borrowing to the seasonal label for which a significant proportion of it would probably qualify. This practice creates analytical problems as seasonal borrowing is thus probably understated, but it may be of little real consequence in that seasonal discount credit has probably been available in that District even if not so recorded. In the Cleveland District, however, it appears that discount credit was in fact less readily available than in the other regions.

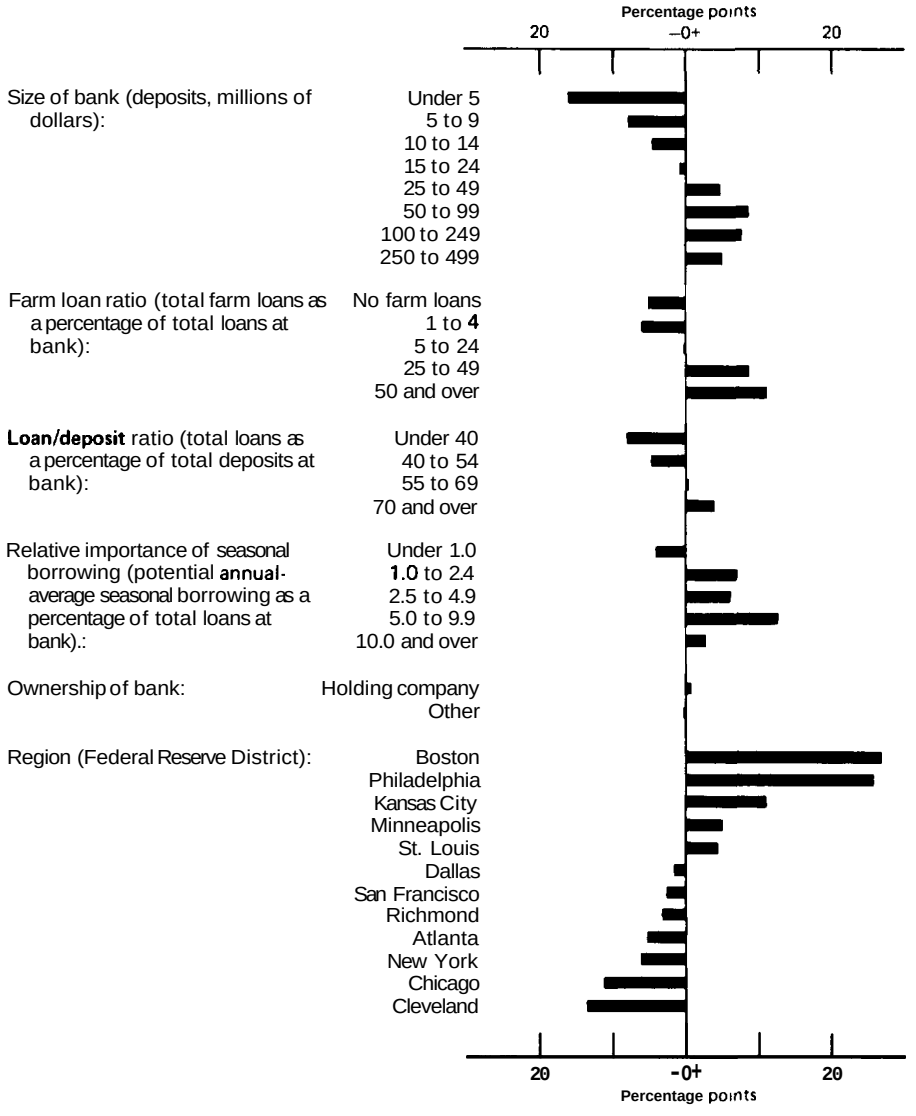
Agricultural banks were well represented among seasonal borrow-

CHART 3

Estimated Net Influences on the Percentage of Potentially Qualifying Banks That Actually Borrowed, 1979

National average = 15 percent

Percentage points subtracted or added by--



ers in 1979, with 200 agricultural banks among the 482 borrowing banks—41 per cent of the total. Because these banks tended to be smaller than the nonagricultural banks, however, they accounted for a smaller share—29 per cent—of total seasonal borrowing. But Table 4 indicates that, in terms of both numbers borrowing and amount borrowed, agricultural banks realized much more of their estimated potential than did nonagricultural banks.

It is further evident that, especially at peak borrowing periods, seasonal borrowing has been large enough to have some impact on the agricultural economy. On a peak-month basis, actual borrowing reached about three-fifths of the estimated potential at agricultural banks. Among borrowing banks alone, borrowings were also somewhat more important at the heavily agricultural banks, even though these banks apparently used less of their borrowing potential than did the nonagricultural banks.

Variations in Seasonal Borrowing, 1973-1980

The volume of seasonal borrowing has varied greatly from year to year, as shown in the upper panel of Chart 4. Total potential borrowing shows no corresponding annual fluctuations. Rather, as noted earlier, it tended to decline gradually except for an upward adjustment in 1976 when the borrowing guidelines were revised. Therefore, qualifying banks for some reason or reasons made more use of their seasonal borrowing potential in some years than in others—in response, perhaps, to changes in the profitability of making loans from funds obtained at the discount rate, or to changes in bank liquidity positions, or to changes in the cost of discount credit relative to that of alternative sources of short-term funds. These possible explanations will be considered in turn.

In the lower panel of Chart 4, a typical farm loan rate series, obtained from a long-standing quarterly survey of several hundred agricultural banks in the Midwest, is compared with the basic discount rate charged on seasonal borrowing. Over the 1973-1979 period, the profit margin available to banks borrowing at the discount rate and lending these funds at the farm loan rate was relatively wide except during two periods of severe monetary restraint, 1973-74, and from late 1978 through 1979, when it narrowed considerably. There was much more seasonal borrowing during these periods of narrow margins. If anything, therefore, profitability considerations may only

have kept seasonal borrowing from being even greater during periods of monetary restraint.

Changes in the liquidity of qualifying banks might also logically lead to annual variations in the amount of seasonal borrowing. Prior to introduction of the seasonal privilege, for instance, banks had to provide for seasonal outflows in other ways, primarily by storing funds from seasonal inflows in the form of liquid securities that could be sold to meet the subsequent outflows. Many of them might not seriously consider changing from this operating method to reliance on seasonal borrowing until faced with a cyclical or secular reduction in liquidity. Or, if a bank already using seasonal borrowing experienced a cyclical increase in liquidity, it would find itself at least temporarily able to handle more or all of its seasonal outflows from its own resources. Later, a cyclical or secular reduction in liquidity might reduce or exhaust this internal capacity, and the bank would resume use of seasonal borrowing. Thus, substantial cyclical variations in the amount of seasonal borrowing could reasonably be expected.

In Chart 4, the seasonal borrowing record is also compared with a broad indicator of changes in liquidity—the overall loan-to-deposit ratio—at two groups of banks, agricultural and small nonagricultural (assets under $500 million). In general, the borrowing record is consistent with the scenario outlined above.

Rapid adoption of seasonal borrowing in 1973 coincided with a cyclical reduction in liquidity, especially at nonagricultural banks. Improved liquidity in 1975, again primarily at nonagricultural banks, is consistent with much reduced seasonal borrowing in that year. In general, this experience was repeated during the next liquidity cycle, 1977-80. As that cycle ended with a sharp, contraseasonal improvement in liquidity during the second quarter of 1980, seasonal borrowing again fell to a nominal level.

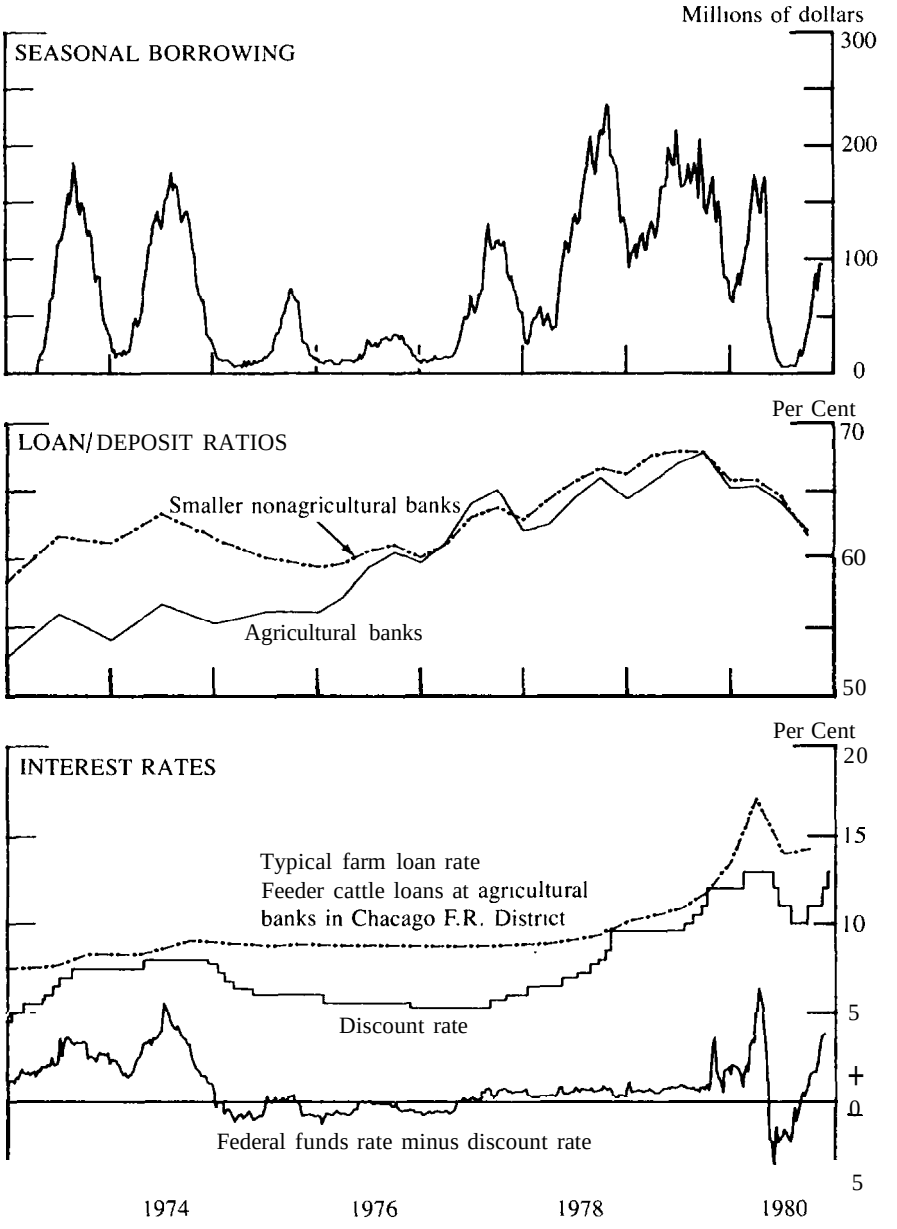
However, changes in the liquidity of small banks alone do not fully explain the seasonal borrowing record. Seasonal borrowing remained relatively low in 1976-1977 while the average loan-to-deposit ratio at agricultural banks was rising sharply from the plateau of around 55 per cent that it had maintained since 1968. Apparently small banks had access to other sources of seasonal funds during 1975-77, a period of general monetary ease. Implicitly, therefore, the relative liquidity position of larger correspondent banks also affects seasonal borrowing. When, as in 1975-77, funds are readily available from correspondents, seasonal borrowing has been relatively low—even

TABLE 4
Seasonal Borrowing. Actual and Potential. 1979

	Actual	***Potential***	*Actual as per- cenr of potential*
Seasonal borrowing (millions of dollars):			
Annual average	144	587	25
Nonagricultural	102	477	21
Moderately agricultural	26	64	41
Heavily agricultural	16	45	34
Peak month	786	2.066	38
Nonagricultural	588	1,740	34
Moderately agricultural	121	202	60
Heavily agricultural	77	124	63
Average duration (months)	2.67	4.45	60
Annual-average borrowing as a percentage of loans at—			
All member banks	.03	.12	25
Nonagricultural	.02	.09	21
Moderately agricultural	.21	.51	41
Heavily agricultural	.37	1.08	34
Borrowing banks	1.02	1.06	96
Nonagricultural	.95	.98	97
Moderately agricultural	1.13	1.33	85
Heavily agricultural	1.43	2.20	65
Peak-month borrowing as a percentage of loans at—			
All member banks	.16	.41	38
Nonagricultural	.12	.36	34
Moderately agricultural	.96	1.62	60
Heavily agricultural	1.85	2.95	63
Borrowing banks	5.58	3.72	150
Nonagricultural	5.49	3.57	154
Moderately agricultural	5.24	4.24	123
Heavily agricultural	7.14	6.04	118

CHART 4

Factors Affecting Total Seasonal Borrowing



when, as in late 1977, money-market rates rose above the discount rate.

There has, nevertheless, been a close relationship between the timing of changes in seasonal borrowing and the position of the discount rate relative to short-term money market rates such as the Federal funds rate, as Chart 4 also indicates. Whenever the Federal funds rate moved below the discount rate, seasonal borrowing promptly fell to nominal levels. As soon as the rate relationship was reversed, seasonal borrowing was resumed.

A recent article has argued that these data indicate that qualifying banks do have access to the Federal funds market, and switch back and forth between this source and seasonal borrowing to obtain funds at the cheaper rate. The chart indicates, however, that banks using seasonal borrowing have not had to test their ability to purchase Federal funds during a period of severe monetary restraint. Such a test would be provided if, during monetary restraint, the discount rate were kept somewhat above the Federal funds rate. A significant amount of seasonal borrowing during such a period would indicate that access to other funds is materially reduced when correspondents are illiquid, and that the rationale underlying the seasonal privilege remains valid. On the other hand, low seasonal borrowing would tend to indicate that small-bank access to money market funds had improved to the point that the underlying rationale had become obsolete. Events have not provided such a test since the privilege was introduced.

Meanwhile, there is other evidence that small banks, which must obtain access to the Federal funds market through correspondents, do not have reliable access to this market. In applying for discount credit, a number of small banks during the past year stated that they were doing so because their correspondent had stopped selling them Federal funds. More generally, in many regions correspondents have been willing to sell Federal funds to small banks for only about two consecutive weeks. After that, they reportedly want to make any further loans at the prime rate rather than at the Federal funds rate.

Nevertheless, the proportion of agricultural banks that were net buyers of Federal funds on quarterly call report dates rose from under 10 per cent in early 1976 to 20 per cent at the September 1979 cyclical peak in loan-deposit ratios at these banks nationally. This trend could receive additional momentum from a recent development that has increased the cyclicality of farm loan interest rates and thus appears

likely to increase the ability and desire of agricultural banks to utilize money-market sources of funds, as well as seasonal borrowing, during periods of monetary restraint.

As illustrated by Chart 4, farm loan rates moved up sharply as money-market rates rose in late 1979 and early 1980, whereas they had not previously responded in that fashion. This behavioral change occurred because the cost of local deposits now rises and falls with rates on U.S. Treasury bills, since bank customers have shifted a large proportion of their deposits into the six-month money market certificates first introduced in 1978. By June 1980, such certificates represented 22 per cent of total resources of agricultural banks nationally.

Thus, in the spring of 1980, a new relationship appears in the lower panel of Chart 4 — the farm loan rate is substantially above the discount rate during a period of severe monetary restraint. This situation seems likely to recur in any future periods of restraint in which the discount rate is kept below money market rates. In past periods of restraint, the narrow margin between the discount rate and. farm loan rates may have helped to discourage seasonal borrowing by agricultural banks. That constraint may be absent in future periods.

Similarly, during past periods of restraint the large negative margin between money-market rates and farm loan rates at agricultural banks must have discouraged the use of money market funds for farm lending by such banks. This factor was much less important during the 1979-80 period of monetary restraint, and the new relationship is likely to persist. Therefore, agricultural banks are also likely to be more interested in acquiring reliable access to money market sources of funds than they were before 1979.

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APPENDIX TABLE 1
Seasonal Borrowing. Actual and Potential. by Federal Reserve District, 1979

Federal Reserve District	*Actual*	*Potential*	*Actual as per cent of potential*
Number of borrowing banks			
1—Boston	53	108	49
2—New York	14	118	12
3—Philadelphia	17	39	44
4—Cleveland	6	245	2
5—Richmond	17	163	10
6—Atlanta	28	248	11
7—Chicago	10	272	4
8—St. Louis	36	109	33
9—Minneapolis	88	347	47
10—Kansas City	150	317	47
11—Dallas	55	280	20
12—San Francisco	8	64	13
Seasonal borrowing (annual average. millions of dollars)			
1—Boston	17	29	58
2—New York	3	63	4
3—Philadelphia	12	18	70
4—Cleveland	1	50	2
5—Richmond	7	33	20
6—Atlanta	17	114	15
7—Chicago	3	35	8
8—St. Louis	8	14	59
9—Minneapolis	23	92	25
10—Kansas City	32	47	69
11—Dallas	18	76	24
12—San Francisco	3	17	19

APPENDIX TABLE 2
Seasonal Borrowing, by Month and by Federal Reserve District, 1979

F.R. District	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Number of borrowing banks												
1—Boston	17	25	34	36	34	27	23	6	8	9	10	8
2—New York	5	5	7	5	3	1	—	2	2	2	2	2
3—Philadelphia	7	10	10	13	14	14	12	5	3	—	1	2
4—Cleveland	1	1	—	2	3	3	3	3	2	2	—	—
5—Richmond	2	3	6	10	11	12	11	8	4	3	2	2
6—Atlanta	7	1	1	—	4	8	10	17	18	19	14	8
7—Chicago	2	2	3	5	6	7	7	5	5	2	4	4
8—St. Louis	3	5	6	7	13	16	17	19	13	12	6	2
9—Minneapolis	5	6	11	21	36	43	55	60	52	39	25	12
10—Kansas City	20	19	33	29	50	54	57	57	67	78	73	44
11—Dallas	21	11	12	15	25	25	18	20	14	20	16	10
12—San Francisco	3	4	3	2	4	4	2	1	1	1	—	—
Borrowing banks as a percentage of all member banks												
1—Boston	10	14	19	20	19	15	13	3	5	5	6	5
2—New York	2	2	3	2	1	*	—	1	1	1	1	1
3—Philadelphia	3	4	4	6	6	6	5	2	1	—	*	1
4—Cleveland	*	*	—	*	1	1	1	1	*	*	—	—
5—Richmond	1	1	2	3	3	3	3	2	1	1	1	1
6—Atlanta	1	*	*	—	1	1	2	3	3	3	2	1
7—Chicago	*	*	*	1	1	1	1	1	1	*	*	*
8—St. Louis	1	1	1	2	3	4	4	5	3	3	1	*
9—Minneapolis	1	1	2	4	7	8	11	12	10	8	5	2

10—Kansas City	3	2	4	4	6	7	7	7	8	10	9	6
11—Dallas	3	2	2	2	4	4	3	3	2	3	2	1
12—San Francisco	2	3	2	1	3	3	1	1	1	1	—	—
Seasonal borrowing (monthly average, millions of dollars)												
1—Boston	11	34	42	31	34	22	6	2	3	5	4	5
2—New York	6	3	6	9	2	*	—	*	1	3	1	*
3—Philadelphia	15	23	23	26	26	20	8	5	3	—	*	1
4—Cleveland	2	2	—	1	1	1	2	2	1	1	—	—
5—Richmond	6	7	6	10	7	11	11	8	4	3	4	4
6—Atlanta	17	2	1	—	3	12	16	25	30	40	37	22
7—Chicago	*	2	4	4	5	6	3	2	3	1	1	2
8—St. Louis	2	2	1	5	11	13	11	17	14	16	6	*
9—Minneapolis	3	6	6	9	23	31	45	58	46	23	15	6
10—Kansas City	12	12	14	22	30	36	38	39	46	50	56	33
11—Dallas	26	16	12	12	20	27	27	16	18	17	19	8
12—San Francisco	3	7	6	5	7	7	*	2	1	*	—	—

*Less than 0.5

APPENDIX TABLE 3

Seasonal Borrowing, by Month and by Farm Loan Ratio of Bank, 1979

Farm loan *ratio of bank*	*JAN*	*FEB*	*MAR*	*APR*	*MAY*	*JUN*	*JUL*	*AUG*	*SEP*	*OCT*	*NOV*	*DEC*
Number of borrowing banks												
Nonagricultural banks	67	77	95	104	133	124	112	92	78	85	69	48
Moderately agricultural banks	11	9	18	24	40	55	62	66	61	50	37	21
Heavily agricultural banks	15	6	13	17	30	35	40	44	50	52	47	25
Borrowing banks as a percentage of all member banks												
Nonagricultural banks	2	2	2	2	3	3	3	2	2	2	2	1
Moderately agricultural banks	1	1	2	3	5	7	8	8	7	6	4	3
Heavily agricultural banks	3	1	3	4	7	8	9	10	11	12	10	6
Seasonal borrowing (monthly average, millions of dollars)												
Nonagricultural banks	85	107	109	109	136	136	106	100	73	94	94	56
Moderately agricultural banks	6	4	5	12	20	35	44	54	50	40	27	14
Heavily agricultural banks	11	4	7	12	15	14	17	22	25	26	22	12
Annual-average borrowing as a percentage of loans at all member banks												
Nonagricultural banks	.02	02	.02	.02	.03	.03	.02	.02	.02	.02	.02	.01
Moderately agricultural banks	.05	.02	.03	.09	.15	.28	.35	.42	.40	.32	.21	.11
Heavily agricultural banks	.26	.08	.15	.28	.35	.33	.40	.52	.59	.61	.52	.28

Commentary

C. *P. "Buck" Moore*

The scenario presented by Emanuel Melichar has established a rationale for the seasonal borrowing privilege and the administrative guidelines that go along with the privilege. There has been a strong view expressed in years past that the Fed should play a more prominent role in providing loanable funds to agriculture. This applies especially to those banks that lack ability to access the national markets during times when we have also seen seasonal volatility in bank deposits as well as seasonal swings in loan demand, and at a time when correspondent banks did not prove to be a reliable source of funds during periods of monetary restraint.

It seems to me, during the many years that I have been involved in banking, that we have had a fragmented and undreliable system of supplying loanable funds depending almost solely on deposit growth.

At this symposium we are talking primarily about loanable funds to agriculture. You will recall that Emanuel examined the factors that influenced qualification for the borrowing privilege, including the differences between agricultural and other banks. Some of the factors affecting the amounts and patterns of borrowing are changes in seasonality and guidelines, changes in bank liquidity, and changes in relationships among the relevant interest rates, that is, the rates of borrowing on alternative sources of funds and on loans being made.

A question is raised as to why qualifying banks, for some reason, use their seasonal borrowing privileges more in some years than in others. I see three basic reasons:

1. Profitability of making loans from funds obtained at the discount rate.
2. Changes in bank liquidity positions.

3. Changes in the relationship between the discount rate and rates on alternative short term funds.

In examination of our region, there would not seem to be a relationship between seasonal borrowing and the discount rate. During periods of monetary restraint, we have seen a higher discount rate, a decrease in the money supply brought on by Fed action, and a corresponding decrease in the liquidity of some banks, producing the necessity to access the Fed or some other source of borrowed funds.

Banks have provided for seasonal outflows of funds by storing "seasonal inflows" in the form of liquid securities to be sold to meet the subsequent outflow. We will probably see more liquidity held in banks to meet future credit demands, unless a dependable source of borrowed funds can be found to fund the loan demand when it comes. I might add that during periods of high liquidity in banks, it has not been their role to solicit additional loan business to use up that liquidity, but rather to take care of their normal demand and build back liquidity in anticipation of future heavy borrowing. This behavior has been caused by apprehension about the availability of funds in the secondary market in the event of a credit squeeze.

Emil Melichar has discussed at some length situations in which seasonal borrowing appeared to be surprisingly small. There are several reasons for this. For example, I do not feel that seasonal borrowing has been encouraged by the Fed to the degree suggested.

The country banks have become somewhat more sophisticated in accessing the money markets through improved correspondent bank relations. At the same time the larger banks, the regional correspondents, have developed more sophisticated ways of accessing national and international markets and have become a more assured secondary market for agricultural banks.

More recently, money market certificates have become an important source of funding for rural banks, and we need to be aggressive in our retention of these funds. However, it may seem at this time that we are nearly out of the ballpark when we look at the relationship between the cost of these funds and the pricing of our agricultural loans. Nonetheless, we should look at the blend of money, average our cost, and aggressively retain these funds in our respective banks.

I do not believe we should rely a great deal on Fed funds because of the volatility of this market. But we will see more realistic swings in typical farm loan rates as well when we use variable-rate notes. That

relates to change in the cost of funds—that is, local deposits of banks—which rise and fall with national rates. To permit this adjustment in loan rates, there needs to be a concerted effort on the part of all bankers to remove usury statutes. It is equally important to encourage wider use of asset and liability management, to know the costs of money and where to price the product for the desired spread.

If agricultural banking is to serve rural America as it should, we need reliable sources of funds in the secondary market. Ag banking should be a viable, competitive force, but there is a need for bankers themselves to be more aggressive, to utilize the tools and the expertise available to maintain the desired share of the market. The future demand for agricultural production will rise to new levels of importance in coming decades in the United States and around the world. While it is not probable, nor even possible, for the United States to feed the world, it is incumbent upon this country and other wealthier nations to try harder to upgrade the overall standard of living of the developing nations. That certainly calls for increasing our agricultural production.

Farm commodity demand will rise 1-3 per cent a year on the average in this country; biggest gains will be made in overseas sales. World population is growing every day, and living standards continue to increase in places like Japan, Eastern Europe, the Middle East, and Russia, all of which will stimulate the demand for more and better livestock products. Therein lies an opportunity for sale of our feed grain in the export market and an improved opportunity for American agriculture.

The number of farms will keep shrinking. However, most farms will continue to be family farms as opposed to the corporate structure with outside ownership.

Financing agriculture has changed immeasurably since the years of the hip-pocket banker. As agricultural lenders, we anticipate increased demands for money to finance this industry in the future, including:

1. Larger operating loans due to inflation's effect on goods and services.
2. Larger farms requiring larger credit lines.
3. Reduced margins in agriculture, along with higher capital costs, putting considerable pressure on cash flow in agriculture.

All this has come about during a time when margins were being depleted in banking by higher loan-to-deposit ratios, less liquidity, and lower capital ratios. The result has been that lenders are more selective when selecting customers and are working with those customers who best manage their land, labor, and capital. There is growing competition among the banks, PCA's, and others for this business. As bankers, we need to use all the available techniques to put together sound loans and carry our borrowers through periods of uncertain prices and prolonged drought. With good planning and a source of funds, bank lenders will be a dependable source of credit.

There are adequate dollars in the financial system to finance the agricultural business, but all banks must carry their share of the load, be aggressive, utilize the tools that are available through their correspondent banks — and, when possible, pass loans to the secondary market.

Agriculture has been a major strength in this country, and it is truly exciting to look to the '80s and beyond. We have the highest level of expertise in the world in the production of food and fiber, and a strong demand exists in foreign markets.

Banks will need to exert a major effort to keep their agricultural business. A recent Department of Agriculture survey of commercial banks confirmed that farm loans from banks are becoming less available. And one of the reasons stated was that funds available for lending were not sufficient to fill the demand. Fully 20 per cent of the responding banks said that they had denied loans or had granted smaller loans than requested because of a shortage of loanable funds in 1978 and 1979. As a result, more and more farmers may be forced to locate and secure loans from lenders they have not dealt with before. But banks are still in the ballgame. This same report, prepared by the General Accounting Office for the Secretary of Agriculture, shows that the Farm Credit System has a total of $40 billion in loans, both real estate and non-real estate, or 30 per cent of the market. Commercial banks have $36.8 billion, or 27 per cent of total loans; however, in the non-real estate area, banks held 43 per cent of the loans, with the Farm Credit System second with 24 per cent.

It was noted in this report that there were several advantages to doing business with the PCA's, including low interest rates; availability of funds, farm lending specialists, and line-of-credit financing; an understanding of farmers' needs; the fact that the system is operated by farmers for farmers with one interest rate for all

borrowers; counseling for effective farm management; and record-keeping services.

Advantages cited for doing business with banks include fast service, convenience, full service, simple loan procedures, and fixed interest rates. Bankers should be able to add other advantages, such as the fact that banks are a dependable source of credit, that they have farm lending specialists, that they have package financing to fit the farmer's needs, and that they offer record-keeping services and estate planning. There must be many more.

Bankers in rural America have an opportunity to generate deposits through money market CD's, NOW accounts, savings, and others, even though we will have much greater competition in the future.

It is imperative that we make customer calls, market our services, and provide dependable service through bad times as well as good, sell the full-service concept, and, above all, utilize participation privileges for overlines with a source that is dependable. The Fed should play a major role in this, as a source of funds to commercial banks through the seasonal borrowing privilege.

Another important consideration for banking is our competition in the '80's. The Farm Credit Act Amendments of 1980 present a serious challenge to the long-run viability of banking institutions to serve agriculture. We'd better come out of the chute with a deep seat, a long rein, and hang our spurs in pretty tough. What I mean is, if we don't make a solid effort not only to retain, but to expand our business in agriculture, we're "gonna get throwed." The Farm Credit Amendments would allow our competition to offer some of the same services that banks offer, but without the same restraints. So we need to get very much involved, and the way to do it is to use all of the tools we have at our disposal, be aggressive, and provide the very best service on a continual basis.

In conclusion, the seasonal borrowing privilege has been an attempt to provide credit through the banks on a seasonal basis, at those times when there is an outflow of deposits and an inflow of loans. In my opinion, it has worked fairly well, but it is rather restrictive, and is a last resort.

Bankers should be motivated to compete aggressively for agricultural loans and have an assurance of fund availability, for there is a continuing need for loans in agriculture. Whether during inflationary times or during periods of monetary restraint, it makes no difference. There is always a demand for production credit in agriculture.

We need to maintain a duality in our credit system. It will be good for the customer, and it will make for better management both in banking and the PCA's. The Farm Credit System has provided an excellent source of credit, but it shouldn't have it all its own way. We don't need a central agricultural bank. However, if a satisfactory source of funding for the rural banks is not found, we may well wind up with one system anyway.

7
The Farm Credit System: Another Source of Loanable Funds

Donald E. Wilkinson

Those of us involved in financing agriculture have come through a decade of major changes in the agricultural sector that have challenged many of our traditional business systems. The use of farm debt rose from $53.0 billion in 1970 to $157.3 billion in 1980. Costs of agricultural inputs increased nearly threefold or 168.9 per cent. The number of farmers had decreased from 4.5 million just 10 years ago to 2.4 million in 1979. As a result, we now have fewer, larger farms providing for the needs of our own population plus a sizeable portion of the world population. Periods of double-digit inflation, energy costs that have quadrupled in the past six years, and market prices for commodities that fall below the cost of production are just a few of the elements that have caused the significant increase in demand for agricultural credit.

At the same time, and in particular during the past year, agricultural banking has gone through some changes. I am referring, of course, to the Depository Institutions Deregulation and Monetary Control Act of 1980—the omnibus banking act. It will affect the ways in which all banks and other financial institutions, such as thrift institutions and credit unions, operate — and, in particular, rural banks. We expect it will have an effect on how the Farm Credit System operates, too. I say this because the omnibus banking bill will affect the entire financial community of which the Farm Credit System is a part. In effect, we—all of us—are entering a new era.

Just as the agricultural and commercial banking sector is changing to meet changing credit demands, the Farm Credit System is adjusting to the changing needs of its primary borrowers—the farmers, ranchers, and aquatic producers of this country — through amendments to the Farm Credit Act of 1971. The 1971 Act was an omnibus

act which mandated the system's institutions to assure that necessary credit could be obtained to improve the income and well-being of American farmers and ranchers.

The 1980 amendments deal with the growing needs for agricultural credit in the 1980s arising out of the changing environment. The centerpiece of this legislation is the authority to finance cooperative exports. But my assignment in this paper is to examine how the Farm Credit System may provide loanable funds to agricultural banks. As all of your are aware, a portion of the Farm Credit Act Amendments of 1980 deals specifically with this subject. However, before I enter into the discussion of other financial institutions and participation agreements, I would like to set the stage with a brief review of the Farm Credit System's history and how it is organized and funded.

The Cooperative Farm Credit System

The cooperative Farm Credit System operates under authority contained in the Farm Credit Act of 1971, P.L. 92-181, as amended. It is a system of federally chartered but privately owned banks and associations organized as cooperatives, supervised and examined by the Farm Credit Administration (FCA), an independent agency in the executive branch of the U.S. government.

Although originally capitalized by the Federal government, the last of the government's investment was repaid with interest in 1969. The Farm Credit System is now completely self-sustaining. Its banks and associations have no government capital in them. Capital is obtained through the purchase of stock by their borrowers. Farm Credit securities or other obligations are not guaranteed by the government. The expenses of the Farm Credit Administration are paid through assessments to the banks, comparable to the Comptroller of the Currency's arrangements with its federally chartered banks. It is the System's borrowers and not the taxpayers who pay the expenses of the Farm Credit Administration. The system is very proud of this and feels that it is a good example of government partnership with a segment of its people — in this case, farmers — to obtain a needed service.

The triumvirate that forms the Farm Credit System today — the 12 Federal Land Banks (FLB's) and the 492 Federal Land Bank Associations (FLBA's), the 12 Federal Intermediate Credit Banks and the 424 Production Credit Associations (PCA's), and the 13 Banks for Cooperatives (BC's) — are all borrower-owned cooperatives. These

financial cooperatives differ from commercial banks in several ways.

First and foremost, they are owned by the people — or, as in the case of the Banks for Cooperatives, by the cooperative organizations — who borrow from them. Each member-borrower has a voice through his or her vote in how the cooperative is operated. Secondly, Farm Credit banks and associations are not depository institutions and cannot offer a full range of services such as checking or savings accounts. Another unique characteristic is that Farm Credit institutions are required by law to serve all agricultural areas during all economic times and conditions. In other words, they have to serve farmers, ranchers, producers and harvesters of aquatic products, agricultural and aquatic cooperatives, rural homeowners, and certain businesses which provide farmers and ranchers with services essential to their on-farm operating needs, no matter what the general credit or economic climate is. Futhermore, they cannot be selective. They must serve all who are eligible and creditworthy.

Another characteristic of the Farm Credit entities that sets them apart from commercial banks is that they operate under eligibility restrictions to ensure their status as agricultural lenders. For example, they cannot make a loan to someone who wants to build a shopping center or a housing development. They are committed to making loans for agricultural production and other eligible purposes.

And finally, I'd like to emphasize that farmers are their primary business. Even the cooperatives to which they make loans are not business entitites in the traditional sense. Cooperatives exist only as an extension of individual farmers operating as a group.

About five years ago, the Farm Credit System became the leader in market share of total farm debt outstanding (see Table 1). Before that, commercial banks were the leading holders of outstanding farm debt. As of January 1, 1980, the System held 30.9 per cent of the total farm debt outstanding, compared to 25.2 per cent for commercial banks, 23.4 per cent for individuals and others, 9.9 per cent for the Farmers Home Administration, 7.7 per cent for life insurance companies, and 2.9 per cent for the Commodity Credit Corporation.

The statistics show, however, that the Farm Credit System is the leading holder of total outstanding farm debt because of the shift in share of farm real estate debt. About five years ago, insurance companies began to retreat from the farm mortgage lending market (see Table 2). Commercial banks' share of farm mortgage lending has ramained relatively constant during that time. In outstanding non-real

TABLE 1
Outstanding Farm Debt, January 1, 1980'
(Amounts in Millions of Dollars)
Includes CCC Loans

	Farm Credit System	%	*Commerciul Banks*	%	*Life Ins. Companies*	%	*FmHA*	%	*Individuals And Others*	%	*Total*	%	*CCC Loans*	%	*Grand Total*	%
1970	$11,384	21.5	$13,875	26.2	$ 5,734	10.8	$3,065	5.8	$16,293	30.7	$ 50,351	95.0	$2,676	5.0	$53,027	100.0
1971	12,660	23.2	14,874	27.3	5,610	10.3	3,235	5 9	16,228	29.8	52,607	96.6	1,876	3.4	54,483	100.0
1972	14,195	2 4 0	16,716	28.3	5,564	9.4	3,389	5.7	16,987	28.7	56,851	96.2	2,262	3.8	59,113	100.0
1973	15,908	24.3	19,107	29.2	5,643	8.6	3,616	5.5	19,277	29.5	63,551	97.3	1,793	2.7	65,344	100.0
1974	19,061	25.7	22,625	30.5	5,965	8.0	3,890	5.2	21,845	29.5	73,386	99.0	750	1.0	74,136	100.0
1975	23,295	28 5	24,204	29.6	6,297	7.7	4,259	5.2	23,458	28 7	81,513	99.6	319	0.4	81,832	100.0
1976	27,073	29.8	26,456	29.1	6,726	7.4	5,141	5.7	25,078	27.6	90,474	99.6	358	0.4	90,832	100.0
1977	31,056	30.3	30,064	29.3	7,400	7.2	5,565	5.4	27,566	26.9	101,651	99.0	1,012	1.0	102,663	100.0
1978	35,273	29.6	33,489	28.1	8,819	7.4	7,123	6.0	30,079	25 2	114,783	96.2	4,489	3.8	119,272	100.0
1979	40,171	29.2	36,830	26.8	10,168	7.4	9,901	7.2	35,187	25 6	132,257	96.2	5,242	3.8	137,499	100.0
1980	48,631	30.9	39,657	25.2	12,165	7.7	5,538	9.9	36,857	23.4	152,848	97.1	4,500	2.9	157,348	100.0

'50-state **total.**

TABLE 2
Farm Real Estate Debt Outstanding'
January 1, 1980
(Amounts in Millions of Dollars)

Year	Federal Land Banks	%	Life Insurance Companies	%	Commercial Banks	%	Farmers Home Admin.	%	Individuals And Others	%	Total Farm Real Estate Debt	%
1970	6,671	22.9	5,734	19.6	3,545	12.1	2,280	7.8	$10,953	37.5	29,183	100.0
1971	7,145	23.5	5,610	18.5	3,772	12.4	2,440	8.0	11,378	37.5	30,345	100.0
1972	7,880	24.5	5,564	17.3	4,218	13.1	2,618	8.1	11,927	37.0	32,207	100.0
1973	9,050	25.3	5,643	15.8	4,792	13.4	2,835	7.9	13,437	37.6	35,757	100.0
1974	10,901	26.4	5,965	14.5	5,458	13.2	3,013	7.3	15,915	38.6	41,252	100.0
1975	13,402	29.0	6,297	13.6	5,966	12.9	3,215	6.9	17,408	37.6	46,288	100.0
1976	15,950	31.2	6,726	13.2	6,296	12.3	3,369	6.6	18,728	36.7	51,069	100.0
1977	18,455	32.6	7,400	13.1	6,781	12.0	3,688	6.5	20,266	35.8	56,590	100.0
1978	21,391	33.6	8,819	13.9	7,780	12.2	3,982	6.3	21,669	34.0	63,641	100.0
1979	24,619	34.1	10,168	14.1	8,557	11.8	4,121	5.7	24,767	34.3	72,232	100.0
1980	29,642	36.1	12,165	14.8	8,623	10.5	6,556	8.0	25,137	30.6	82,123	100.0

'50-state totals.

estate farm debt, commercial banks have maintained their market share and are by far the leading short-term lenders, providing 41 per cent, with PCA's a distant second with 24 per cent (see Table 3).

A recent study by the Farm Credit Administration projected that market shares of farm debt will continue to shift during the 1980s and that the Farm Credit System's share could gradually increase. The level of increase, however, will depend on several factors, including funding costs, the difference between the System's variable rates and interest rates charged by other lenders, and the availability of funds from other lenders, including government. We expect to see considerable innovation in bank lending to meet the general challenge of the farming environment of the 1980s, and the specific challenge of the Depository Institutions Deregulation and Monetary Control Act of 1980. With narrower spreads in commercial banks, we will undoubtedly see increased pressure for bank consolidation. Gradual but persistent changes are expected. No dramatic change in market share is anticipated unless there is a forfeiting of responsibility or a decision not to participate on the part of one of the key agricultural lenders.

Although the main reason for the establishment of the Farm Credit System was to ensure farmers a constructive and reliable supply of credit, the Farm Credit System does not want to monopolize agricultural lending. The system has shared a healthy, competitive relationship with other agricultural lenders over the years, and it wants that to continue in the best interest of all borrowers.

Since it has no depository authority, the Farm Credit System has successfully developed its ability to gather funds from the national money markets and distribute them to farmers across the country through its financial pipeline. In 1980, the Farm Credit banks will issue a total of $93.8 billion in securities. Only the U.S. Treasury exceeds the Farm Credit System in the amount of money raised through the money markets.

During their 64-year history, the Farm Credit banks have never failed to pay principal and interest on their obligations when due. As a result, Farm Credit securities enjoy a very high rating, even without any Federal guarantee, falling just below the rating given to U.S. Treasury bonds.

Raising this capital for agriculture begins with the system's Fiscal Agency in New York. Maintained by the 37 Farm Credit banks, the Fiscal Agency issues, markets, and handles Farm Credit securities through a selling group of approximately 170 dealers.

The Farm Credit banks raise their funds by issuing two types of securities. Federal Farm Credit Banks Consolidated Systemwide Bonds are issued in book-entry form 16 times a year on the first of each month and on the 20th of January, April, July, and October. Bonds with six- and nine-month maturities are issued on the first of each month and sold only in multiples of $5,000. Longer-term bonds are issued at least quarterly. Bonds with maturities of 13 months or longer are available in multiples of $1,000.

The Federal Farm Credit Banks Consolidated Systemwide Notes, on the other hand, are designed to provide flexibility in obtaining funds when unexpected demands occur by allowing financing between bond sales. These discount notes are issued daily, with maturities of 5 to 270 days, and are sold only in certificate form in $50,000, $100,000, $500,000, $1 million and $5 million amounts.

When a new issue of systemwide bonds is offered, the Fiscal Agency places notices in financial publications and major newspapers such as the ***Wall Street Journal, The New York Times, American Banker,*** and ***The Bond Buyer***. No public announcement is made of the daily sales of systemwide notes.

Coordination with the rest of the monetary system is an important consideration before any Farm Credit System bond sale. The system voluntarily coordinates its issues with the U.S. Treasury, the Federal Reserve, and with brokers and leading investment houses to assure that the issue will go through and fit into the monetary scheme. For example, the system takes into consideration whether another organization such as the Federal National Mortgage Association is coming into the market with any unusual demand. If the Farm Credit System was to enter the market with a bond sale at the same time, it might be hazardous to both.

Anyone other than FCA employees and certain system employees can purchase Farm Credit securities, and the list of investors reflects a variety of groups that have benefited by providing capital to the nation's food and fiber producers.

Commercial banks make up the largest single groups of investors in Farm Credit securities (46.2 per cent), followed by state and local governments, savings and loan associations, and corporations. To a lesser extent, mutual funds, savings banks, pension funds, and individuals also invest in Farm Credit securities. Foreign investors, mostly large European banks, also hold a small percentage of securities outstanding (see Table 4).

TABLE **3**

Non-Real Estate Farm Debt Outstanding[1]

January 1, 1980

(Amounts in Millions of Dollars)

Includes CCC Loans

Year	Commercial Banks	%	FCAs[2]	%	Indiv. and Others	%	FmHA	%	OFI's	%	Total	%	Commodity Credit Corp.	%	Grand Total	%
1970	$10,330	43.3	$ 4.495	18.9	5,340	22.4	785	3.3	218	0.9	$21,168	88.8	2,676	11.2	$23,844	100.0
1971	11,102	46.0	5,295	21.9	4,850	20.1	795	3.3	220	0.9	22,262	92.2	1,876	7.8	24,138	100.0
1972	12,498	46.5	6,078	22.6	5,060	18.8	771	2.9	237	0.9	24,644	91.6	2,262	8.4	26,906	100.0
1973	14,315	48.4	6,607	22.3	5,840	19 7	781	2.6	251	0.8	27,794	93.9	1,793	6.1	29,587	100.0
1974	17,167	52.2	7,829	23.8	5,930	18.0	877	2.7	331	1.0	32,134	97.7	750	2.3	32,884	100.0
1975	18,238	51.3	9,519	26.8	6,050	17.0	1,044	2.9	374	1.1	35,225	99 1	319	0.9	35,544	100.0
1976	20,160	50 7	10,773	27.1	6,350	16.0	1,772	4.5	350	0.9	39,405	99.1	358	0.9	39,763	100.0
1977	23,283	50.5	12,233	26.6	7,300	15.8	1,877	4.1	368	0.8	45,061	97.8	1,012	2.2	46,073	100.0
1978	25,709	46.2	13,508	24.3	8,410	15.1	3,141	5.6	374	0.7	51,142	91.9	4,489	8.1	55,631	100.0
1979	28,273	43.3	15,041	23.0	10,420	16.0	5,780	8.9	511	0.8	60,025	92.0	5,242	8.0	65,267	100.0
1980	31,034	41.3	18,323	24.4	11,720	15.6	8,982	11.9	666	0.9	70,725	94.0	4,500	6.0	75,225	100.0

'50-state totals

[2]Includes aquatic loans, excludes rural home and farm related business loans.

TABLE 4
1980 Dealer Distribution*
(3rd quarter sample)

Type of Customer	%
Commercial banks	46.2
State and local government	16.7
Corporations	4.9
Savings and Loans	4.7
Pension funds	3.8
Foreign accounts	8.5
Savings banks	1.8
Individuals	2.6
Fraternal/charities	0.8
Credit unions	0.3
Other dealers	1.5
Miscellaneous	6.4
Insurance companies	1.8
TOTAL	100.00

*Figures reflect participation of 172 dealers in five bond issues—one six-month, one nine-month, and three term issues.

Interest rates on new security issues are set at the time they are sold and are consistent with current rates. The process of pricing Farm Credit bonds begins a week before the actual sale. The Fiscal Agency's financial experts contact the various dealers handling Farm Credit securities to get a feel for the market and for customers' interest. This market survey also includes an analysis of Federal Reserve buying and selling activity.

At the same time, the 37 Farm Credit Banks indicate their interest in participating in the upcoming bond sale. The finance subcommittee—a nine-member group comprised of three presidents from each banking system —- sets the total size of the bond issue and bond maturities to be offered. The Fiscal Agency completes a market survey to determine appropriate interest rates for each of the maturities to sell, and price recommendations are submitted to the finance subcommittee. After the subcommittee approves the interest rates for the issue, final approval must come from the Governor of the Farm Credit Administration, who acts in the public interest.

Many misconceptions exist about the Farm Credit Administration and the system of Farm Credit banks and associations it regulates. Earlier in this paper, I briefly mentioned the unique structure of the system and alluded to its original capitalization by the Federal government. It is important at this point to present a clear picture of the System's structure before proceeding with the major portion of this paper — the discussion of loanable funds from the Farm Credit System.

Farm Credit Administration

The Farm Credit Administration is an independent agency in the executive branch of the Federal government. It is the regulatory, supervisory, and examining body over the Farm Credit System. It is a regulatory agency not unlike the Comptroller of the Currency for national banks or the National Credit Union Administration for federally chartered credit unions.

The head of the agency, the Governor, is appointed by the 13-member Federal Farm Credit Board. Membership on the Federal board is by presidential appointment. In making an appointment, the president is required to consider nominees presented to him by the lending units of the district involved. Members serve six-year, staggered terms and are not eligible for reappointment. The thirteenth member is appointed by and serves as the representative of the Secretary of Agriculture. The Federal board is the policy-making body for the Farm Credit Administration and the cooperative Farm Credit System.

The Farm Credit System

Much of the confusion over the relationship the Farm Credit System has with the Federal government stems from the fact that the system was, in fact, capitalized originally by the Federal government. Another factor in the confusion is the names of two of the banking systems which include the word "Federal" — the Federal Land Banks and the Federal Intermediate Credit Banks. And then there are our Federal Farm Credit Banks Consolidated Systemwide Bonds and Discount Notes, again with the word "Federal" in the name. Oddly enough, Federal savings and loan associations, Federal credit unions, and even commercial banks that have "Federal" or "National" as part of their name have escaped this confusion.

The fact of the matter is that, in spite of what the names of titles may indicate, the Farm Credit banks and associations are not government institutions. A Production Credit Association is no more a government entity than a federally chartered bank. The Farm Credit System with its 37 banks, 916 associations, and its Fiscal Agency in New York is a private structure with government authority — the same relationship national banks have in the commercial banking industry.

Each part of the Farm Credit System — the Federal Land Banks and Federal Land Bank Associations, the Federal Intermediate Credit Banks and Production Credit Associations, and the Banks for Cooperatives — was born of necessity and at different times. In each case, there was a strong need that was not being met by the commercial banks and other lenders of the day.

The first entity — The Federal Land Banks — was established by the Federal Farm Loan Act of 1916. The 20 to 30 years just before the FLB's and FLBA's (then called National Farm Loan Associations) were characterized by agrarian distress. Not the least of the problems was that available credit was geared to the needs of industry, not agriculture. Interest rates ranged from 7 to 10 per cent and were nearly doubled by special charges and fees. Foreclosures rose alarmingly as farmers were unable to make payments to absentee mortgage holders. **A** credit system adapted to agriculture's conditions was badly needed.

Congress recognized this need and, after considerable study, approved the Federal Farm Loan Act of 1916, which provided a permanent and'dependable source of long-term borrowed capital at reasonable rates and on terms suited to agriculture.

Initially the FLB's were capitalized by the Federal government, but the 1916 Act provided a means by which they would ultimately be owned by their borrowers through the FLBA's. In the FLB system, the bank is the primary lender, with the associations acting as the bank's agent. By 1947 all Federal capital was paid back and the Federal Land Banks became completely owned by the farmer borrowers.

Federal Intermediate Credit Banks

Although there was concern in Congress over the need for short- and intermediate-term credit at the same time, it was six years before a serious solution was tackled. The financial crisis of 1920-21, followed by an agricultural depression that continued through

the decade, emphasized the difficulty farmers had in obtaining short-term operating credit.

Commercial banks in rural areas, dependent on farmers' deposits for their lending funds, made lonas for 30 to 90 days. Crops and livestock, however, took longer to produce. Farmers expected to renew their loans, but rural commercial banks, often short of funds, had the legal right to demand payment, and often did at times when farmers did not have the money. In an effort to provide agriculture with more credit — particularly of a short- and intermediate-term nature — Congress passed the Agricultural Credits Act of 1923. The Act provided for the establishment and capitalization of 12 Federal Intermediate Credit Banks.

It was expected that the FICB's would provide a new flow of funds from the money markets to rural commercial banks by discounting the notes of agricultural producers given to various financing institutions, thereby helping to fill the existing credit gap in which farmers were trapped. However, financial institutions did not use the services of the FICB's to the extent expected. The flow of funds was not more than a trickle, which left the credit needs of farmers unfilled.

Congress again acted with passage of the Farm Credit Act of 1933. This act authorized the establishment of local Production Credit Associations, which could discount farmers' notes with the FICB's. In effect, the PCA's become the retail outlets for credit available at wholesale from the FICB's — their only source of funds.

Like the FLB's, FICB's and the PCA's were initially capitalized by the Federal government. Under the congressional authority which established the institutions, PCA's are taxed as cooperatives whereas FICB's are not. Although not initially established to become borrower-owned like the FLB's, later changes in the laws governing these institutions paved the way for them to repay the government's investment. The PCA's assumed complete ownership of the FICB's in 1968, placing the FICB's on a sound basis as a vital part of the cooperative Farm Credit System.

Banks for Cooperatives

The Farm Credit Act of 1933 also established and initially capitalized the Banks for Cooperatives. The law was intended to help farmers gain greater control of their own economic destinies by providing dependable credit for their marketing, supply and service cooperatives.

Although the Agricultural Credits Act of 1923 provided for cooperative financing through the FICB's, for whatever reason it did not work to the extent expected. A few cooperatives were highly successful pioneers. However, generally the growth and development of early cooperatives were severely handicapped by their inability to borrow sufficient amounts of money.

Local banks were reluctant to finance new ventures owned by farmers who lacked experience in running businesses beyond their property lines. Even when cooperatives were relatively successful or had potential for success, the cooperatives' local competitors were often on the local banks' boards of directors. Local bankers usually could see cooperatives' weaknesses, but often did not understand the organizational differences between cooperatives and other businesses.

As a result, credit for agricultural cooperatives before 1933 was virtually nonexistent. With the 1933 Act, however, credit needs of farmers' marketing, supply, and business service cooperatives were recognized. The mandate of the 1933 Act was for the BC system to supply credit for agricultural cooperatives large and small. In addition, the Farm Credit Act of 1971 extended participation authority to BC's, which — in the case of larger cooperative loan demands exceeding the loan limitation of a BC — allows the BC to participate with commercial banks in making loans to cooperatives. Like the PCA's and the FICB's, the BC's became completely owned by their borrowers in 1968. The are also taxed as cooperatives.

Present Authority

While there were several other important legislative changes over the years, a most significant modification of the Farm Credit System was made with the .Farm Credit Act of 1971 — the landmark legislation which decentralized authority and mandated the systems's role in "improving the income and well-being of American farmers and ranchers by furnishing sound, adequate, and constructive credit and closely related services to them, their cooperatives, and to selected farm-related businesses necessary for efficient farm operations." (P.L. 92-181; Sec. 1.1[a]) Had the system not made these changes, it would be out of touch today with the needs of agricultural producers. This Act has been amended several times, with the amendments of 1980 being the most recent.

Some of the major provisions of the Farm Credit Act Amendments of 1980 will

- Increase U.S. agricultural exports by authorizing banks for cooperatives to finance agricultural export transactions of U.S. cooperatives.
- Increase cooperation between System institutions and commercial banks in meeting the credit needs of farmers.
- Help low-equity and young farmers by permitting Federal Land Banks to make loans of up to 97 per cent of the appraised value of farm real estate when these loans are guaranteed by a Federal or state agency.
- Ensure that cooperative services will continue to be provided to farmers by lowering the farmer-member eligibility requirement of utility and supply cooperatives financed by the Banks for Cooperatives.
- Allow Federal Land Banks and Production Credit Associations to more fully finance the processing and marketing activities of farmers, ranchers, and commercial fishermen.

Another Source of Loanable Funds

I have taken the time to emphasize that the Farm Credit System is a Federally chartered, cooperatively organized, and borrower-owned credit system, that it operates at no cost to the U.S. taxpayer, and that it was established to ensure farmers a constructive and reliable supply of credit. I also indicated earlier that there has been authority for the system to provide funds to commercial banks and other financial institutions since enactment of the Agricultural Credits Act of 1923. This brings me to my specific assignment of discussing with you possible ways in which the Farm Credit System may provide loanable funds to agricultural banks.

I am pleased to discuss this topic at this time, for the Farm Credit Act Amendments of 1980 address this subject specifically in three ways: through expanded authority for the System banks to participate in loans with other lenders outside the system (new FLB-commercial bank participation authority), through an improved PCA-commercial bank participation program, and through an expanded OFI authority.

The intent of the Farm Credit System through participation agreements has been an effort to complement existing banks in meeting the

credit needs of farmers who do not elect to become PCA members. Discount privileges through the FICB's for other financial institutions (OFI's) have continued to provide an alternative means of channelling funds from capital-surplus areas to agricultural areas, which historically have been capital-deficient, where dedicated lenders can demonstrate a bona fide need and do not have access to money markets similar to that available to the Farm Credit System.

This intent is in line with the system's mandate as stated in the Farm Credit Act of 1971. The Farm Credit System is committed to serving the credit needs of American agriculture. As a result, the system's attitude is that American agriculture and the public interest will best be served when all lenders are actively involved in providing sound and constructive credit to the nation's farmers and ranchers.

Participations

One of the provisions of the Farm Credit Act of 1971 established authority for PCA's to participate with rural banks on agricultural loans. The commercial bank-PCA participation loan program is similar to an overline arrangement between a commercial bank and its regional correspondent bank. The commercial bank and PCA sign an agreement specifying terms for the PCA to purchase a portion of larger agricultural loans from the commercial bank, normally representing amounts in excess of its individual borrower lending limit. The commercial bank continues as the primary lender servicing the complete line of credit.

Currently, both the PCA's and the BC's are authorized to enter into such participation agreements with unlike institutions. While this participation arrangement has not been an unqualified success, volume has steadily risen since the program was first instituted in 1974 and has worked well in many parts of the country (see Table *5)*.

Under current law each PCA, subject to rules and regulations prescribed by the board of directors of the FICB and approved by the Farm Credit Administration, may make, guarantee, or participate with other lenders in short- and intermediate-term loans and other similar financial assistance to (1) bona fide farmers and ranchers and the producers or harvesters of aquatic products, for agricultural purposes, and other requirements of such borrowers, (2) rural residents for housing financing in rural areas, under regulations of FCA, and **(3)** persons furnishing to farmers and ranchers services directly related to their on-farm operating needs.

TABLE 5

Production Credit Associations' Selected Monthly Loan Data Participations Purchased From Commercial Lenders for the Period Ended 9-30-80 ($000s omitted)

	Number of Part. *September* 1980	*O/S* *Septetnber* *1979*	*Per Cent Change*	*Amount of Part.* *September* 1980	*O/S* *September* 1979	*Per Cent Change*
Participations with Commercial Lenders						
Springfield	$ —	—	—	$ —	—	—
Baltimore	3	1	200.0	2,942	2,928	0.5
Columbia	5	4	25.0	479	1,256	(61.9)
Louisville	80	70	14.3	7,096	6,605	7.4
New Orleans	12	37	(67.6)	2,416	2,336	3.4
St. Louis	52	153	(66.0)	9,175	11,961	(23.3)
St. Paul	805	706	14.0	66,991	42,745	56.7
Omaha	214	214	—	29,381	28,994	1.3
Wichita	240	145	65.5	50,389	54,354	(7.3)
Texas	63	66	(4.5)	12,131	11,570	4.8
Sacramento	—	—	—	—	—	—
Spokane	6	1	500.0	593	285	108.1
Total	1,480	1,397	5.9	181,593	163,034	11.4

Source: Farm Credit Administration, Bank Services Division
10/27/80

The 1980 Amendments will remove several of the obstacles currently holding a partial lid on participation. The first proposal will provide the FLB's with the same basic authority which PCA's now possess to participate with other lenders in making mortgage credit available to farmers. Under current law, FLB's may participate in loans only with other FLB's. The new provision will allow FLB's to participate with unlike entities in the Farm Credit System — BC's, PCA's, and FICB's—as well as non-Farm Credit banking institutions such as commercial banks.

The second proposal will revise and streamline the participation arrangement. Under current law, non-voting stock in PCA's equal to not less than 5 per cent of the loan retained by the PCA's must be purchased in connection with each loan participation. The law requires that such non-voting stock, often referred to as participation certificates, be issued to the borrower. This makes the PCA a visible third party in the loan transaction with the borrower. Some banks' have feared that this PCA membership would cause customers to eventually move to a PCA.

Under the new legislation, the PCA ownership equity will not have to be purchased by the borrower, but the association could issue non-voting stock or participation certificates directly to commercial banks or other lenders. In effect, this will remove the PCA's as the visible third party from the transaction and minimize the tendency for the borrower to switch lenders.

OFI Discounting Privileges

Other financial institutions owned by commercial banks have had access to the Federal Intermediate Credit Banks' discount windows since enactment of the Agricultural Credits Act of 1923. Under current regulations, to qualify for discounting privileges at an FICB, an OFI must:

- Show that the need is not the result of denial or restrictions on its traditional sources of supplementary financing.
- Document that the FICB discounting is needed to maintain the average volume of agricultural loans experienced over the past three years by discounting.
- Have at least 25 per cent of its total loans in agricultural loans.
- Have a gross loan-to-deposit ratio of at least 60 per cent at the seasonal peak or justify a lesser ratio.
- Show evidence of capital structure to support an economically

feasible lending operation and actual or potential loan volume to permit a reasonably efficient lending operation.

In addition, the 1971 law restricts OFI's to discounting loans for agricultural purposes only. PCA's have broader authority to make loans to farm-related businesses, rural residents, and aquatic producers. In addition, PCA's have the authority to make loans for the other needs of agricultural and aquatic producers. The major impact that the new OFI provision will have is that for the first time FICB's could discount for OFI's the same types of loans, for the same purposes, that PCA's are authorized to make.

The second part of the OFI provision is designed to assure that the FICB discount privilege is available on a reasonable basis to qualifying banks and agricultural credit corporations. Under the 1971 law, OFI's have made only limited use of the FICB discount privilege. For example, as of June 30, 1980, 167 OFI's rediscounted with or were in a position to rediscount with the FICB's (see Table 6). This is an increase of 17.6 per cent over the previous year. Under the new OFI provision, it is estimated that more banks will have access to the FICB discount privilege.

The criteria established by the 1980 Amendments for determining access to the discount privilege, which FICB's will be obligated to use as the basis for access by OFI's, are:

1. Significant involvement in agricultural or aquatic lending.
2. Demonstrated continuing need for supplementary sources of funds to enable continued agricultural or aquatic lending.
3. Limited access to national or regional capital markets.
4. Willingness not to use funds to expand nonagricultural or nonaquatic lending.

Implementing regulations will define the specific requirements under each criterion. Congressional testimony would indicate that the agricultural portion of the total loan portfolio may be 15 per cent instead of the present *25* per cent requirement, with the loan-to-deposit ratio somewhere around 60 per cent.

Access to capital markets provision will be on a case-by-case analysis. The intention is that those banks affiliated with holding companies or large enough on their own to utilize managed liabilities, such as selling commercial paper on the national money market as the system itself does, would not be granted access to the FICB discount window.

TABLE 6

Other Financial Institutions

(Number of OFI's in each Farm Credit district rediscounting with or in a position to rediscount with the FICB as of June 30, 1980, by type of institution or affiliated institutions and statement of total amount rediscounted

Number by type of institution or affiliated institution)

Farm Credit District	*Total Number*	*Affiliates of Farmers' Cooperatives*	*Commercial Banks or Affiliates of Commercial Banks*[a]	*Affiliates of Privately Owned Businesses (Supply, Processing, Marketing, etc.)*	*Privately Owned Credit Corporations Not Affiliated with any Other Business*
Springfield	—	—	—	—	—
Baltimore	8	1	7		—
Columbia	3	—	2	1	—
Louisville	2	1	1	—	—
New Orleans	8		7	—	—
St. Louis	4	—	3	1	—
St. Paul	35	1	30	3	1
Omaha	38	1	34	1	2
Wichita	43	2	40	1	—
Texas	16	1	8	4	3
Sacramento	7	2	2	2	1
Spokane	3	—	2	—	1
System Total	167	10	136	13	8

[a] Eight commercial banks have direct rediscount privileges, the balance of the banks in this column are bank affiliates

This table includes only those other financing institutions that have executed rediscount agreements with the FICB and have collateral on deposit.

During the fiscal year ended June 30, 1980, 3 OFI's cancelled their rediscount agreements and 28 new OFI's were approved.

For the year ended June 30, 1980, OFI's rediscounted $1,697,840,987 with the credit banks as compared to the $1,416,918,235 that was discounted for the year ending June 30, 1979.

Potential vs. Problems

This paper has reviewed the organizational development and intent of the Farm Credit System as well as the current laws and changes to those laws governing OFI access to the FICB discount window and participation agreements. These legislative provisions represent a new attitude on the part of the Farm Credit System. It looks toward significant streamlining of the participation agreement program and liberalizing access to the FICB discount facility where a need can be demonstrated.

The Farm Credit System anticipates an expansion of participation programs and OFI discounting through the FICB's. The intent of the 1980 amendments is to ensure deserving farmers adequate credit through commercial bank relationships where this approach is a necessary and feasible part of the agricultural community.

Part of the responsibility for expanded agricultural bank discounting with the FICB's or participation in loan agreements with PCA's or other Farm Credit System entities lies with each agricultural bank. Although an increased number of banks have joined the trend toward use of participations, not all bankers view this favorably. Many bankers dislike the idea of getting too close to the PCA competition. Others dislike having the PCA as a visible partner in the loan (although the new legislation should eliminate this concern). And it must be admitted that some PCA's have cited similar reasons for reluctance to participate with commercial banks.

In some states — especially those with statewide branching — the need for participations is limited and is reflected in the degree to which PCA's are involved in the participation program (see Table 5). However, as the capital requirements of the farmer increase — and they will increase, in many cases, beyond the capacity of the individual PCA of rural bank — it will become increasingly advantageous for PCA's and commercial rural banks to set aside their differences and cooperate. PCA's and commercial banks that have crossed the "fear of competition" hurdle have found participation mutually beneficial.

Although the new OFI and participation provisions of the Farm Credit Act amendments of 1980 promise to liberalize and streamline the current systems, the question of implementation problems naturally arises. Problems are frequently in the eye of the beholder and in reality are only problems if not managed properly. For example, implementation of the provisions of the Monetary Control Act of

1980 could become a major problem completely disrupting the financial structure of this country. However, the upheaval facing financial institutions will be handled in phases, over a period of several years.

In a similar manner, the implementation of these provisions will be an evolutionary process. To irresponsibly open the floodgates could cause as much disruption to the agricultural financial sector of the economy as would similar action in the deregulation of the banking industry.

Any constraints of fund availability through Farm Credit System sources would be the result of sudden excessive demand that would put stress on the ability of the FICB's or PCA's to service applicants. However, in view of the fact that it took nearly half a century for commercial rural banks and other eligible financial institutions to utilize the FICB discount window, the Farm Credit System does not anticipate a rush on this service as a result of passage of the 1980 amendments.

The capacity of the Farm Credit System to provide loanable funds to the commercial banks serving agriculture as well as its own entities is based on what demand the money markets will bear. As indicated earlier, the Farm Credit System does not enter the money markets with security issues without first coordinating with the U.S. Treasury, the Federal Reserve, and with brokers and leading investment houses. Serving the demand of the system's entities for loanable funds must have primary consideration as required by law. But serving additional agricultural borrowers through other lending institutions is the basis for our partnership with commercial banking in the 1980s.

Commentary

Thomas R. Smith

A review of Donald Wilkinson's document discussing the history of the Farm Credit System caused me a bit of nostalgia. My recollection of this history is from the other side of the desk. I remember as a very small boy listening to discussions my parents had with an insurance company representative. He was calling on them in the early '30's to discuss the balloon payment due on the farm mortgage. You will recall that farm mortgages at that time were made with five-year balloons and interest-only annual payments. I remember the great relief when it was decided to leave my folks in possession of the farm.

Both banks in our home community closed. My dad would go to the bank in Elkader and borrow on a six-month note. Six months later he would go to the bank in Strawberry Point and borrow to repay the bank in Elkader. That was called agriculturally programmed credit at that time. Somewhere about this time a local PCA was started in Elkader, and it became the source of credit for my parents' farming operation. It also financed my 4-H calves. I'm indebted to them for the opportunity that was created for me because of that financing.

Some years ago I served on an Advisory Group of the Farm Credit System when they were updating the methods of chartering other financial institutions. On July 14, 1971, as a member of the ABA Agricultural Committee, I testified before Congress on the proposed Farm Credit Legislation.

I related, in that testimony, matters I felt concerned the farmer. I supported the unified debt proposal of the system and opposed its efforts to issue "deposits" in rural areas at interest rates beyond Regulation Q, which restricted banks. At that time I quoted a Federal Reserve Board report which said "Production Credit Systems serve

only one function—to provide credit to farmers. This is the reason they have been successful and have actually outgained the banks in this function in the Seventh Federal Reserve District."

My testimony continued: "If this be the case, why then in the interest of national policy and the serving of agriculture do we want to dilute that effort with mobile home financing, fiduciary relationships, depositor privileges, farm management, and estate planning? Will this really benefit the farmer or is it designed to benefit the system?" Over the years I have spoken to the annual director's meeting of the Federal Intermediate Credit Bank of Omaha. I have talked to the annual meetings of our local PCA. Early in 1979 I was asked to prepare a research paper for presentation to the Strategic Planning Committee of the Federal Intermediate Credit Bank of Omaha. One of my summary statements in that report was "The responsibilities for the Farm Credit System of being No. 1 in agricultural lending are very great. When the Farm Credit Systems speaks, everyone listens." E. F. Hutton picked that one up and has done much better with it than I did.

Our holding company, Brenton Banks, Inc., has an OFI which has helped meet the needs of our agricultural borrowers. In the spring of 1979, during the very tight money situation, our bank, the Fidelity Brenton Bank, negotiated a participation line of credit with our area Production Credit Association. The relationship in our area is one of two good professionals respecting the capabilities of each other. We are good friends and intense competitors. I have great respect for the Farm Credit System, its personnel, and its training program. Its service to agriculture has been a part of my rural life for many years. We have been well treated by the Farm Credit System. I have never felt disadvantaged at their window. I'm envious, frankly, of their very good capabilities. I regard them as a formidable competitor.

My function here this morning, however, is to address the report presented by George D. Irwin, FCA director of research, on behalf of Governor Wilkinson. I have observed throughout the report the same six areas of contention that have recently surfaced between the commercial banks and the Farm Credit System:

1. The congressionally designed requirement that the Farm Credit System serve as a source of credit during all economic times.
2. The very apparent concept that the Farm Credit System is a growing monopoly in agricultural credit nationally and is accelerating that monopolistic position at an expanding rate.

3. The fallacy that the Farm Credit Administration is like a bank regulator.
4. What appears to be a Farm Credit System policy to politically divide and conquer the banking industry.
5. The present thrust of the system's effort that goes beyond its designed purpose of "service to farmers and ranchers," to that of expanding the system into a nationwide full-service financial organization.
6. The system's agile way of tiptoeing through the tulips as it hopscotches from "private" to "Federal" depending on where they are and to whom they are talking.

My first point was the congressional requirement that the Farm Credit System serve as a source of credit during good times and bad. It is important to remember that the system is not intended to be, nor does it act as, a lender of last resort. Borrowers are turned down as not being credit worthy. Last winter in our area was a particular example of a time when cash flows did not work very well because of low grain and livestock prices. Applicants were rejected, borrowers were asked to consolidate, and some were eliminated. As with all other sophisticated conventional lenders, when borrowers don't perform appropriately, loans are called.

The same requirement was mentioned as it related to rural housing loans. Last winter the Federal Land Bank in our area put a six-month moratorium on rural housing loans so they could process the load of land loan applications they were receiving. In fact, they were so burdened with applications, it was taking up to three months to get a loan closed. Let's face it, the system is not and cannot be all things to all people. It has realistic and practical limitations.

My second point is that the Farm Credit System is a growing monopoly nationally and that its monopolistic position is expanding at an accelerating rate.

A 40 per cent penetration of the total farm credit market is certainly a dominant position. I am reminded of an incident that occurred with my son many years ago. As we were leaving church, he saw some frames hanging on the wall of the foyer and said, "What are those pictures, Daddy?" I said, "Those are plaques with the names of servicemen who died in the service." He asked, "Did they die in the 9:00 or the 11:00 service?" I feel like I have survived the 9:00 service, but I'm not sure I'm going to survive the 11:00 service.

If the Farm Credit System were Procter & Gamble they would be a monopoly. If they were General Motors they would be a monopoly. If they were Citibank they would be a monopoly. I'm really not objecting to that, except that in that position, they certainly don't need a nurse cow anymore.

My third point relates to the fallacy that the Farm Credit Administrator is like the Comptroller of the Currency. This, in my opinion, is a total misconception of how it works. It would be like comparing an OSHA inspector to the Chamber of Commerce executive in our community.

The Farm Credit Administrator serves as an advocate of the system, and properly so. He serves in that capacity in admirable fashion, I might say. Bank regulators, on the other hand, serve as an adversary to the banking industry and have been a weight on our backs. I feel like the Father Flanagan quote: "He's heavy, but he's my brother." Let me give you an example. The Federal Reserve discount window has been discussed earlier in this meeting as an outside source of funds. Yet there are more agricultural loans placed by agricultural banks in the Farm Credit System through the 136 OFI's and direct PCA participations than are supported by the Federal Reserve discount window. Why is it the discount window is not supportive and not used by agricultural banks? Because it is run by an adversary of the banking system.

We recently had a compliance examination in a $40-million bank of which I am a director. There was a discrepancy observed, the results of a calculator with a programming error. After three weeks of work to find a $201 error, refunds of less than $7 apiece were made to 29 borrowers.

This is, in my opinion, overzealous regulation. There have been some real horror stories in the banking industry caused by overactive regulatory insensibilities. My area of responsibility at my bank is operations and compliance. I probably spend about a fourth of my time reading regulations, interpreting them, quite often with legal counsel, and disseminating the information to our banks. I was interested to note that the first week the new Deregulation Committee was active, it issued three new regulations.

I was recently looking through some old files in a bank where I formerly served as president. I ran onto an examination report from the early 1940s that was very critical of the bank for making farm machinery loans on a term installment basis. Typical then, as now, of

failure to keep up with the world.

Some months ago we established a new product and service in our area, the repurchase agreement. We did this in order to draw funds to the bank and compete with the money market funds that were having considerable impact on our area. It wasn't very long until the regulators came down and said, "Treat it like a deposit." You all remember on October 1 when we had to identify the deposits of natural persons in our banks by stamping "Non-Transferrable" on the savings account card or the certificate as it was opened. One of our new-account people put a sign on her desk that said, "Effective October Ist, all natural persons must be stamped on." Some years ago, our holding company designed a program of selling debentures to our customers. It wasn't very long until this source of additional funding was cut off to us by the regulators as being an inappropriate activity.

My point is, the regulators are designing all of our products. We really have no options for innovation. We have been studying asset allocations to make sure that we can meet the needs of our agricultural communities and have deemphasized consumer lending. We have great concern that in so doing we will be in violation of our CRA statement and will come under criticism again from the regulators. We have very great difficulty now serving the credit needs of our directors because of one indiscretion in the industry and an overactive regulatory position.

We do have monetary decontrol, if we can last the eight years to deregulation. A leading eastern banker was recently quoted in one of the trade journals as saying that the regulators are dragging us into the 19th century. I have spent considerable amount of time studying the feasibility of the interest rate hedge. I have established a paper position at no exposure or risk to the bank. I am monitoring this position to determine that we fully understand what this offers before we risk any of the bank funds. I discussed it the other day with one of our regulators. He was visably shaken. He cautioned me not to do this and said his current feeling was that he should issue a cease and desist order.

I said, "You mean just for thinking about it?" I understand one of the qualification tests to be a bank regulator is to squeeze a rock until it bleeds. There is some discussion going on in the industry now about what are appropriate capital ratios. Our competitors have us handicapped in the branching field. When push comes to shove out in the

country, it's just me against the regulators. My machine reads TILT every day.

My fourth point is the farm credit system's current policy that seems to be designed to divide and conquer the banking system. From what I read, about 2,500 banks will apparently be eligible to use the rediscount privilege, for which historically all banks have been eligible. The industry sees this as a significant giveup. It has been endorsed by the Independent Banker's Association, which has negotiated hand in hand with the Farm Credit System. The Independent Banker's Association, in my opinion, is not positioned on the cutting edge of the progressive elements of the banking industry. Reference is made in the report to what I call a blind participation feature of the new bill. A bank can buy stock in the Farm Credit System and not tell the borrower where the loan is placed. This is not full disclosure. It's not professional banking. I am used to correspondent bank participation relationships where we visit the loan periodically and we do have full disclosure.

Indications are made that banks larger than the so-called special 2,500 can access money markets. I'm telling you that our holding company, a group of 17 banks in the middle of Iowa, with approximately $700 million in assets, has difficulty in accessing the money markets for funds. We have had a private placement of preferred stock. We do have a line of credit with correspondent banks, but we have been advised by professionals not to attempt a major money market solicitation. Certainly, the Fidelity Brenton Bank, an institution of $75 million, can do nothing spectacular in that area. We do have a $6-million line of credit for participations with one of our correspondent banks. We as bankers have let this divisiveness weaken our industry.

Someone has asked what are the five most difficult years for a banker. The answer—second grade. We do cause a good share of our own problems. We confuse Congress by our lack of togetherness.

My fifth point is the present thrust of the system. Designs go beyond "service to farmers and ranchers," and the thrust is designed to expand the system into a full-service nationwide financial organization. Throughout the report there are numerous reference such as: "Improve the income and well-being of American farmers," and "Farmers are our primary business." If this is the design, then why is it necessary to seek commercial and industrial loan capabilities? Why reduce the farmer membership requirement of co-ops? Why go international?

My sixth point is the agile way in which the Farm Credit System uses its Federal affiliation or its private enterprise connotation, depending on where they are and who they are talking to. The Federal relationship is used to deny subservience to state usury laws and to disclaim responsibility for payment of state filing fees and, in some cases, other state regulations. The private enterprise clock is put on in Washington. They jump back to the Federal gate when they appear as a regulator. I understand you to be private, and I congratulate you for your success. I wish you would quit playing hopscotch and just level with everybody.

Let's look at what really accrues to the farmer's benefit:

1. Availability of funds.
2. Professional service.
3. Competitive intensity.
4. Elimination of artificial barriers to product delivery

This may not be an all-inclusive list, but it would generate a darn good financial service in Marshall County, Iowa.

I want to reaffirm my respect for the Farm Credit System. I really don't begrudge them their opportunity. We in agriculture need you. I resent as strongly as I possibly can, however, the handicaps that are placed in the way of my bank, my loan officers, my peers in the banking industry, so we can't run in the same race. I want to try to do what we can do together instead of trying to do what we can do to each other.

8
A New Market to Provide Loanable Funds to Rural Banks

Raymond J. Doll

The technological capability exists for transferring millions of dollars throughout the world in a matter of hours by use of modern telecommunications. Yet many rural banks in the Great Plains have difficulty in obtaining needed funds to finance economic development in their communities. These banks need access to nondeposit sources of funds comparable to those available to competing institutions. The thesis of this paper is to suggest that improved secondary markets for bank asset and liability items will provide rural banks in capital-deficit rural areas with such access on a competitive basis.

The problems facing rural banks have been well studied and known for a long time. The most recent major effort was made when the Board of Governors of the Federal Reserve System established a study committee in 1970 "to continue investigation of rural banking problems that had been pointed out in the 'Report of a System Committee' as part of the *Reappraisal of the Federal Reserve Discount Mechanism.*"[1] A decade later little has been done to implement recommendations made in the report. Instead, effort has continued to be devoted to perfecting correspondent banking practices, improving markets for finance acceptances, obtaining discount credit through the Federal Intermediate Credit Banks, and changing banking organization.

Perusal of banking data over the past two decades suggests that the banking system continues to be confronted with the problems outlined in the report. On January 1, 1960, commercial banks were providing 27 per cent of outstanding farm loans in the United States

1. Board of Governors of the Federal Reserve System, *Improved Fund Availability at Rural Bunks,* Washington, *D.C.,* June 1975, **p.** 1.

vs. 16 per cent by the Farm Credit System. On January 1, 1980, the figures were 25 per cent and 31 per cent, respectively. The Farm Credit System surpassed commercial banks in relative importance as a source of farm credit in 1975 for the first time, and has gained in relative importance consistently since that time.

In recent years, agricultural (overline) loans carried by metropolitan banks in the Tenth Federal Reserve District have not grown at as rapid a rate as have loans made by non-metropolitan banks. This appeared to be true for states that prohibit multi-bank holding companies, for those that permit them, and for New Mexico, where limited branch banking prevails. In some instances, differences of opinion prevail on metropolitan bank boards as to how the banks' resources should be invested. At least in the Tenth District, these differences hinge on the relative importance of investments made primarily within the region surrounding the metropolitan area vs. those made in outlying non-metropolitan areas. As long as compensating balances remain as a method of financing correspondent bank account services, the direction such managerial decisions take can be of crucial importance to rural banks.

Another difficulty facing rural banks is the problem of obtaining overline loans for purposes other than farm loans. Rural banks report that many city correspondents are reluctant to grant overline loans for nonfarm purposes. Thus, if overlines are needed in a rural area for other than a farm loan, a rural bank's problems are compounded. The FICB alternative does not prevail except for farm loans. This problem will intensify with the changing growth trends in both non-metropolitan and metropolitan areas. During the past decade, for the first time since such areas have been designated, non-metropolitan areas have grown more rapidly than metropolitan areas. Such changing growth trends almost certainly will be reflected in changing financial trends, as new employment and living patterns emerge.[2]

To summarize, it appears as if the recommendation of the Federal Reserve System Committee on Rural Banking Problems needs to be pursued. Furthermore, emphasis should be placed on the importance of developing a market that enables rural banks to compete equitably with other financial institutions to raise needed funds in the nation's

2. For an interesting study related to this issue, see Andrew J. Sofranko and Frederick C. Fliegel, "Newcomers to Rural Areas: What Impacts Are They Having," *Rural Development News*, Vol. 6, No. 1, June 1980, North Central Regional Center for Rural Development, Iowa State University, Ames.

financial markets, including satisfactory methods for handling overline loans. Unless such provision is made, non-metropolitan banks will need to deal in a diverse mixture of instruments with agencies operating under different authorities, and use cumbersome practices, if they are to provide financial services needed in their communities.

Specifications for Achieving Market-Perfecting Actions

Part of the difficulty confronting rural banks that prevents them from offering securities that meet the credit and liquidity standards of national money market participants results from the fact that they operate under more restrictive rules and authorities than do their nonbank competitors. To make their instruments competitive in national money markets, small rural banks need to have equal access to financial markets, which means being able to package securities so they are just as attractive as those of other market participants. This suggests a market in which the numerous financial instruments of all the different participants can be bought and sold on a comparable basis.

Such a system does not prevail today. To illustrate, the nonbank financial institutions can issue a wide variety of instruments and market them under specifications that are not available to rural banks. Inequalities also prevail in financial markets with respect to such items as applicability of usury laws, rate variability under Regulation Q, and tax considerations. Such inequities and differences prevent competitive equality.

If equality is to be encouraged by permitting rural banks to raise funds effectively in national money markets, the instruments developed for this purpose must stress safety, efficiency, and liquidity. The safety issue involves many factors pertaining to items such as financial strength of issuer, collateral, kind of financial instrument, and capability of issuer. Participants in national money markets would know little if anything about most of these factors for an isolated rural bank's instruments. On the other hand, they know that commercial bank management is carefully observed, supervised, and examined by the FDIC, the Comptroller, or the Federal Reserve System. In addition to the strong incentive that already prevails for bank management to stress safety, such overseeing provides additional assurance. If a security were issued jointly by a group of such banks, the instrument could possess substantial diversity and proba-

bly be quite safe. But as Sandberg points out, investors still would "be interested in the number of banks involved, size of the individual banks, geographical dispersion of these banks, degree of diversity in the bank's lending operations (for example, do all banks in the pool engage in considerable lending to the cattle industry?), and degree of liability of each bank — whether each bank is liable for all the obligations of the pool or only for some specified portion."[3]

Furthermore, considerable effort would need to be devoted to putting an adequate package together. Little activity is likely to result, nor are the packages likely to be most desirable, if an individual banker is depended upon to put it together. The liquidity of such a package also would be questionable. The market for such paper would be thin because of lack of knowledge about, and the small quantity of, such instruments that are likely to be available.

Size of the package and total volume of each issue also are important in evaluating efficiency and liquidity considerations. Transactions in national money markets are conducted in sizable units, usually multiplies of $100,000, with some participants dealing in units of millions. It costs little more to make a $1,000,000 transaction vs. a $100,000 transaction. Because of the small spread that usually prevails between the cost of funds and the returns earned in highly competitive markets, such efficiencies become crucial. An active market or an issuer who is willing to deal on a repurchase agreement basis is necessary if a marketable instrument is to have a high degree of liquidity. An active market is preferable for providing liquidity, but to have such a market, a large volume, in terms of both number of instruments and total dollar volume, is necessary. Since this would mean hundreds of millions of dollars of outstanding paper for each of the numerous instruments rural banks might want to deal with, there may be times when a repurchase arrangement for certain of the instruments might be desirable.

Such difficulties suggest the need for a highly developed, well-organized, and well-capitalized umbrella organization which would be able to package a wide variety of asset and liability instruments based on rural bank paper and to make these instruments marketable on a competitive basis.

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3. Board of Governors of the Federal Reserve System, ***Improved Fund Availability at Commercial Banks,*** Washington, ***D.C.,*** June 1975, **p.** 22.

Organization

Whatever form of organization is chosen, local rural banks must have easy access at modest cost to continuously updated market information for all instruments traded. With modern telecommunications, a central office could most efficiently collect and update money market information, package the securities, and sell or buy instruments in the money markets to raise or repay funds. An intermediary organization of this type would enable rural banks to place acceptable instruments in the money markets and provide financial services for their communities.

Consideration also must be given to evaluating whether the organization should be confined to operating only with banks or be expanded to permit all major financial institutions to participate. With the changes brought about with passage of the Depository Institutions Deregulation and Monetary Control Act of 1980, strong arguments can be developed for permitting all rural financial institutions to participate if they so desire.

If the organization becomes as strong as envisioned, it is possible that at times the instruments it packages could sell at more favorable prices than many of the highty specialized instruments on the money markets at present. From the viewpoint of efficient marketing, it would be desirable to have one organization package and place all types of qualified instruments on the money markets. This could be advantageous to the public and helpful in the implementation of monetary policy. However, permitting all financial institutions to use such a market would pose virtually insuperable difficulties because of their diverse organizations, activities, reserves, and supervision. Therefore, the subsequent proposals will be applied only to instruments of insured commercial banks.

A Private Banking Venture

One alternative with substantial appeal is an institution organized as a private venture by the banks themselves. Membership would be available to all insured commercial banks that agree to help capitalize the market and abide by specified bylaws covering such items as fees, instruments to be traded, investments to be made, and trading rules. The amount of capital needed and methods used in capitalizing such an institution would be of crucial importance and could vary widely depending upon volume, and upon the kinds of operations performed by the chartered agency.

The fee structure developed could be a flat fee, a percentage of dollar volume, an add-on to the interest rate, or any combination of these. Regardless of the method used, the fees must relate to the cost involved for each individual transaction, be adequate to pay expenses, including insurance, and provide for adequate reserves and payment of a return on capital. This is a difficult package to develop, but there is much experience with such pricing, and the difficulties are surmountable.

Enabling legislation would be required to make such a venture possible, since most rural banks are subject to state banking laws. Yet for such an institution to be at all effective, membership would have to be open to all banks on a comparable basis. Federal banking legislation, including antitrust legislation, would need to be clarified to permit banks to purchase stock in the venture and capitalize it adequately.

The success of such a private ventrue would depend upon securing the initial participation of a large number of banks located in widely diverse regions. Thus, the basic question is: Who will provide the leadership and the funds to bring about the necessary legislative changes, to organize on a 'nationwide basis, and to provide for adequate capitalization of such a venture? Small rural banks do not have adequate resources, while large city banks may view such an institution as a competitor, particularly if current procedures are retained.

Williford, in discussing agricultural credit corporations, suggests, "There has been no evident real interest on the part of either large banks or government regulators in backing such an organization. Therefore, any initiative in the development of an intermediary structure must be forthcoming from groups of rural banks on a private commercial basis. To date, there have been no successful ventures such as this organized."[4] Williford views the intermediary structure as a group of regional banks, Such a structure would be inadequate to provide needed services. Again, emphasis must be placed on the need for a nationwide organization of rural banks if the market is to provide for adequate diversity, size of market, efficiency, and flow of information. Also, Agricultural Credit Corporations provide for agricul-

4. George H. Williford III, *Agricultural* ***Credit Corporations and Alternative Funds Sources: Potential for Rural Commercial Bunks,*** Thesis, Stonier Graduate School of Banking, June 1980, pp. 67-68.

tural credits only, and what is needed is a broad-based market for asset and liability items of rural banks. The agricultural sector already is much better provided with broad-based financial services than is the non-agricultural rural sectbr. Since legislative changes would be required, it is highly improbable that a consortium of regional, less-well-known rural banks can provide the necessary impetus to establish such an organization. In all instances where comparable organizations have been established, the impetus has come from Congress.

Since banks already have an adequacy of regulatory agencies and unification is essential, the most logical solution to the problem is for Congress to pass enabling legislation permitting existing regulatory agencies to reorganize and carry out the necessary additional functions.

A Governmentally Sponsored Agency

Virtually all financial institutions are operated under government charters. Banks must be chartered either by the federal government (Comptroller of the Currency) or by a state government (usually a banking commission). Since governments grant the charters, they expect banks to provide appropriate financial services to the communities in which they are located. Historically, many rural banks in capital-deficit areas that are subject to loan limit regulatory restrictions have not always adequately served their communities. The result has been creation of specialized credit agencies which, as pointed out previously, are permitted freedoms not available to rural banks.

Because of the unique problems facing rural banks, strong arguments prevail for governmental sponsorship of an agency that would encourage increased mobility in the flow of funds through the competitive marketing of bank asset and liability items. Historically, Congress in organizing specialized credit agencies has permitted them considerable flexibility in packaging and marketing issues for the purpose of raising funds in the national money markets. Furthermore, they have been granted substantial freedom in deciding how to best resolve such difficulties as loan limits. Banks need similar flexibility.

Since Congress is responsible for implementing monetary policy and nationwide uniformity is needed if good money market instruments based on bank liability and asset items are to be developed,

government sponsorship is recommended. This could best be achieved by extending the powers of the Federal Deposit Insurance Corporation and the Federal Reserve System (perhaps even combining them) and permitting them to organize and take on the task of making rural bank paper more marketable, as well as providing other assistance to banks in rural communities in solving their loan limit problems. Both the FDIC and the Federal Reserve are well qualified and organized for conducting this type of activity. FDIC has experience in insuring deposits and evaluating both asset and liability items of commercial banks in its efforts to see that banks are safely operated and their depositors protected. Their experience is ideal for dealing with banks in developing insurance for other bank liability and asset items. The Federal Reserve now deals with banks on monetary matters and with money market instruments. Cooperatively, the two agencies could establish rules for creating instruments that the FDIC could insure, and the Federal Reserve System could provide information to the banks, package the instruments, and market them.

Circumstantial evidence suggests that the wide variety of financial agencies, operating under different rules and regulatory authorities and with different restrictions, are not conducive to the equitable allocation of capital to its most productive needs. This may partially explain the slowdown in the rate of growth in productivity, an important issue if the United States is to combat inflation and remain competitive both domestically and internationally. More mobile financial markets would do much to rectify present inequities and encourage allocation of capital to its most productive uses.

Both Congress and the administration recognize that a liberalization of banking rules is necessary in the modern world. The main thrust of a White House study released this summer "is that technological changes — such as the availability of machines that offer a range of electronic banking services — and the growing competition from financial institutions other than banks are inconsistent with laws that now limit banking operations."[5]

As was pointed out at the beginning of this article, technology has long been able to resolve rural banking's dilemma and social institutions that restrict use of modern technology are responsible for many of banking's problems. The White House study "proposes liberalization of the Douglas Act of 1956, which prohibits a bank holding

5. *The Kansas City Times*, Friday, July 11, 1980, p. D7.

company from acquiring an out-of-state bank unless specifically authorized by the legislature of that state.''[6] Many other controversial issues pertaining to banking structure also are raised. Since there is no evidence suggesting that changing bank structure is of significance in solving rural bank problems, a system needs to be devised that would permit market forces more freedom in solving rural finance problems and enable rural banks to become more viable financial institutions in their communities. An intermediary structure as is being proposed would be helpful in attaining the proposed objectives.

Capitalization

Adequate initial capitalization would be needed to provide for organization expenses, physical facilities, personnel, supervision, and operating expenses while the intermediary structure is being established, and to protect against loss while reserve funds are being built up. Although a substantial sum would be required, the historical experience of the organizations now providing comparable services (Farm Credit System, Federal Deposit Insurance Corporation, Federal Home Loan Banks, and Corporate Central Credit Unions) has been excellent. These organizations have been able to cover losses and build up sizable reserves in addition to repaying government capital injected when the institutions were organized. Creation of the proposed organization should be easier than was organizing and starting these institutions.

More information and experience also is available for developing an operating procedure and rate structure than was available to the institutions just mentioned. Furthermore, it would be to the interest of both the Federal Reserve System and FDIC to have an effective market for rural bank instruments and to be involved in such an activity. The System, in addition to keeping well informed on a diverse group of money market instruments, would be able to provide useful services to rural banks. It is well known that there was little direct incentive for rural banks to belong to the Federal Reserve System prior to passage of the Depository Institutions Deregulation and Monetary Control Act of 1980. With passage of the Act, there is virtually none.

Since the Federal Reserve has little else to offer member banks under present law that is not available to nonbank financial institu-

6. Ibid.

tions, why not permit member banks to use the value of their stock investment in the Federal Reserve as their capitalization for the proposed market? Nonmember rural banks could subscribe in proportional amounts to become members. All participating banks would help elect the directors of the Federal Reserve Banks. Permissive legislation would need to be passed providing that the $1.2 billion of paid-in capital stock now held by member banks in the Federal Reserve System, plus $1.1 billion in surplus, be used for initial capitalization of the new intermediary organization. This amount, plus that added by nonmember banks (if all joined), could provide up to approximately $2.8 billion for initial capitalization.

The FDIC had approximately $9.8 billion of reserves for insuring commercial bank deposits as of the beginning of this year. This is an adequate reserve to provide safety for deposit-type instruments of commercial banks, even if the $100,000 limitation were increased or removed. Additional reserves would be needed to insure the safety of the asset-type instruments. The **$2.3** billion of Federal Reserve System capitalization, plus the $0.5 billion potentially available from nonmembers, would provide a substantial amount for such needs if enabling legislation so permitted. This, plus an adequate fee structure (e.g., 0.4 per cent to be added to reserves or paper backed by a well-diversified portfolio of prime bank notes), should permit the market to cover costs and build up adequate reserves as the market expands. Such a procedure would permit significant capitalization during the developmental stage and, with a proper fee structure, permit capitalization to grow with expansion of the market. Furthermore, with each issuing bank being at least indirectly responsible for the original paper used for backing such instruments, losses from guaranteeing should be minimal.

The value of all stock in the intermediary organization would be included as part of the capital of each subscribing bank and used in computing the bank's loan limit. As each bank increased its use of the market beyond a certain ratio, it would be required to buy additional stock. For example, if a bank initially had $10,000 of stock and this provided for $1,000,000 of outstanding activity, as its outstanding activity exceeded $1,000,000, the bank would be required to purchase additional stock at, say, 1 per cent for all excess activity.

Unlimited dividend payments would be permitted from earnings on the intermediary's activities after adequate provision was made for reserves. Each individual bank would be allowed to withdraw such

dividends in cash or apply them toward increasing the individual bank's capital in the intermediary organization.

Instruments to be Handled

If local deposits do not provide adequate funds to meet community needs, outside sources of funds must be sought. However, risk exposure increases when a rural bank seeks such sources of funds for making additional loans. If the risk becomes too high, the adequacy of the bank's capital must be reevaluated. If a bank's risks become too high in relation to its capital, all of the risks that are supposed to be controlled by loan limit requirements merely emerge somewhere else.

Gable points out that there are four qualities that any rural bank asset or liability must possess before it can be marketed on a regional or national basis.' He lists these as convenience, continuity, safety, and liquidity, which are the same qualities stressed previously. Regardless of whether the rural bank wishes to raise funds by the sale of, or by borrowing on, assets, or through use of liabilities, these four qualities are crucial.

For rural banks in capital deficit areas, one source of nondeposit funds is sale of bank assets. The primary assets of a bank are fixed assets, U.S. government securities, municipal issues, and loans, since these are the basic assets held by rural banks.

Selling a bank's fixed assets has limited potential as a source for raising funds, while relatively good markets already prevail for U.S. government securities and municipal issues. Thus, loans remain the basic asset available in large quantities if an adequate system can be developed for marketing them. Many rural banks already market mortgage loans successfully. In these cases the selling bank usually continues to service the mortgages. If mortgages are sold relatively soon after they are made, the bank's liquidity problem is minimized. If mortgages are packaged and sold after being held for some time, especially when interest rates are escalating, the bank is faced with a capital loss.

In some instances, rural banks have successfully sold blocks of consumer installment paper to institutional investors. However, as Gable points out: "This type of loan is deficient in all of the necessary

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7. Board of Governors of the Federal Reserve System, ***Improved Fund Availability at Rural Banks,*** **p. 24.**

characteristics, and to obtain a continuing market, sellers must provide high-quality paper, as well as a higher rate of return, to compensate for the lesser degree of liquidity and convenience.''[8] Marketability of this type of paper could be improved substantially if the packages were screened and insured by an organized market, diversified by including paper from a number of different banks, and made more liquid by substantially improving the market.

Since rural banks in capital-deficit areas have been short on funds to lend, it is not unusual to find such banks with more than two-thirds of their total assets in short-term loans. The most logical place to obtain additional nondeposit sources of funds is through creating marketable instruments based on such loans. An intermediary organization of the type proposed would enable such a market to be developed. The Farm Credit System has had good experience in using this technique for raising funds in the money markets on farm loans made by its agencies. They had been able to pay off all of the government capital that was injected and build up a surplus of $1.6 billion in addition to the capital stock investment of $2.6 billion as of January 1, 1979. With the supervision to which rural banks are subject, and with their generally careful management, use of similar techniques should be equally successful.

If rural bank notes with standard maturities and diversification with respect to number of banks, purpose of loan, and security can be packaged into large instruments, the issues can be guaranteed or insured at minimum cost. Adequate supervision to insure that only high-quality paper is marketed, along with favorable experience over a period of years, would establish the reputation of such instruments and make them highly marketable. Historical experience suggests that such paper could be guaranteed at a cost of between one-fourth and one-half of a percentage point added on to the interest rate. Money market instruments based on such paper and guaranteed by the FDIC would be expected to sell at, or below, the commercial paper rate. Thus, it seems reasonable to assume that such funds could be obtained and insured for rates comparable to those for short-term agency paper. With rates the commercial banks charge for non-real estate farm and other loans, the spread should be sufficient to allow, payment of the operating costs for obtaining the funds, to provide a servicing fee for the rural bank, and to provide much more adequate

8. Ibid, p. 25

financing for the nation's hinterlands. Furthermore, it will enable commercial banks to remain viable financial institutions in many capital-deficit rural areas.

The most common liability items used by commercial banks to obtain funds are certificates of deposit, Federal funds, and bankers' acceptances. As Sloan points out: "Funds acquired by issuing liabilities would not be restricted to any particular use, but rather could be employed by the issuing banks in all of their loan and investment activities. In addition, liability instruments could be tailored in size and maturity to fit the needs of the investor as well as the bank, thus enhancing their marketability."[9] Although all of these techniques are available now to rural banks, their use could be enhanced substantially by the availability of a good market for instruments issued by rural banks which are not well known in the money markets. Small rural banks frequently pay a substantial rate premium on CD funds compared with large banks. Access to competitive money markets would minimize this spread and make funds more readily available to capital deficit rural communities. Virtually the same arguments hold for use of Federal funds and bankers' acceptances.

An example of how an organization of the type proposed could be helpful under prevailing conditions can be illustrated with the use of CD's. Since the FDIC insures CD's up to $100,000, the organization could obtain funds competitively from the money markets in large units and unpackage them in units of $100,000 or less per bank. If a small bank needed $500,000, the funds could be provided from 5 different sources and the full $500,000 insured. Thus, funds could be provided at competitive rates despite the fact that the rural bank is unknown in the money markets. Obviously, the rural bank would need to demonstrate that it has an adequate capital structure and the capability for making good investments before such funds would be made available.

In summarizing, there are relatively good markets available today for many of the instruments used by the larger money center banks. However, a well-organized and-capitalized market such as that just proposed would improve the marketability of all bank paper, including some of the better instruments now being satisfactorily marketed by large money center banks. Such a market also would make

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9. Ibid, **p.** *33.*

the commercial banking system, through which this nation implements its monetary policy, a more viable competitor in many rural communities.

The Loan Limit Problem

Although loan limits pose particularly difficult problems for most small rural banks, there are good reasons for having such limits. Good loans occasionally become 'classified and, in some instances, uncollectable. Therefore, a bank should not be permitted to make a loan of such size that, if uncollectable, the capital structure of the bank would be impaired. Despite prevailing loan limit regulations, some banks still have capital impairment difficulties because of violations of the regulation or poor management. A market of the type proposed could be helpful in solving such problems. Furthermore, such a market should be permitted to put together a package that would enable a number of small rural banks each to assume a certain proportion of a loan request that is too large for one or a small number of the rural banks to make.

The problem immediately arises as to how the qualities of convenience, continuity, safety, and liquidity can be assured so as to make this type of loan feasible through an intermediary market. A special difficulty exists because the safety provided by having a widely diversified package of notes from a varigated group of banks would not prevail. Would enough small rural banks be willing to take a portion of such a loan and bear the risk of it becoming classified and perhaps uncollectible? Would a large city bank be interested in taking such an overline at competitive rates? Obviously, it would depend upon how well such loans are made and supervised and how well this information is known in the markets.

If the loan is made to an established, well-managed local company with good security, and if this information is known in the markets, funds will be available at competitive rates. If the loan is questionable, depository institutional financing should not be provided. It is essential that large loans to an individual or firm be carefully evaluated, supervised, and secured if the funds are to be raised competitively.

Thus, it would be essential for any market handling such paper to have a competent staff to work with rural banks in making and supervising large overline loans needed in a rural community. In this connection, it is interesting to point out that the Farm Credit Admin-

istration, when confronted with the problem of loan limits, established its own regulations pertaining to such limits for all of its offices. The Farm Credit System has had a number of years of favorable experience in dealing with the overline loan problem with farm and ranch loans. With proper organization and a competent staff, an organization such as is being proposed should provide for better overline loan service for the banking system than prevails under current conditions.

Although recent data are not available, "Melichar and Doll reported that the *855* member banks with *50* per cent or more of their portfolio in farm loans in 1966 received farm loan participations equal on average to only *22* per cent of the balances they maintained with correspondent banks."[10]

Hopefully, the situation has improved substantially since 1966, but evidence suggests that the banking system still finds it difficult to provide net financing to capital-deficit rural banks. Compensating balances and loan limit problems are largely responsible. Substituting a fee schedule for some correspondent banking services, providing competitive rates through improved markets for rural bank instruments, and providing a competent staff to assist in handling large overline loans made by rural banks could be advantageous to both rural and city banks in providing better financial services to the nation's economy.

For example, an intermediary market could provide several alternatives for financing overline requests by a rural bank without having to maintain a large correspondent balance. In addition to efforts to market the overlines to city banks as an investment, they could be split among a diverse group of rural banks that happen to have excess funds.

Williford, in speaking about participations of rural banks in his proposed agricultural credit corporations, suggests, "The loans can be originated by the individual banks and participated to the corporation. The banks, on the other hand, could accept applications to be submitted to the loan corporation, with the loans made directly by the ACC. Whichever method is utilized, a portion of each loan should be retained by the individual banks. If each bank keeps approximately *25* per cent of each loan submitted, it will preserve their interest in the credits, which should maintain the quality of the loans handled by the

10. Ibid, **p.** 12.

corporation.''[11] Use of a comparable procedure for overline loans handled by the intermediary market should prove quite helpful in improving fund flows in the nation and making rural banks more viable financial institutions.

Potential Criticisms and Responses

Obviously, proposals of the magnitude suggested will be criticized by antagonists. The criticisms are likely to range from legitimate concerns relating to impact of the proposals on banking to those simply arguing for maintaining the status quo. In this section, some of the obvious concerns will be pointed out and discussed.

A major concern that needs to be acknowledged is the impact such an intermediary market would have on the dual banking system. Would it tend to force virtually all banks to become subject to Federal regulation? Instead of destroying the dual banking system, the objective is to strengthen rural banks, which are predominantly state banks.

The real attack on the dual banking system in recent years has come from creation of specialized nonbank fianancial institutions because the banking system did not provide adequate financial services. Furthermore, Congress has responsibility for monetary policy and the nation's financial system under Article 1, Section 8 of the Constitution. It must have considerable control over banks if it is to carry out this responsibility. Congress, almost from its inception, determined that implementing monetary policy was a complex, full-time job and delegated this responsibility. Currently, the basic delegation is to the Federal Reserve System. However, the Comptroller, FDIC, and others are involved. Although the various state banking commissions and specialized credit agencies are deeply concerned about monetary policy implementation, it is Congress that has the ultimate responsibility. It did not destroy the dual banking system when it created the Federal Reserve and FDIC, or when it passed laws pertaining to the Comptroller of the currency. The proposed market would not create a new agency and would not have to weaken the prevailing system. Instead, it is designed to strengthen the banking system and improve financial services generally.

Some member banks will ask why their funds, invested in capital

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11. Williford, ***Agricultural Credit Corporations and Alternative Fund Sources,*** p. 80.

stock in the Federal Reserve System, should be used to finance a competing intermediary market. The market is designed to improve the viability of the banking system generally. An important requirement of monetary policy is that funds flow competitively to all regions of the nation and all sectors of the economy. If they do not, experience indicates that specialized agencies will be created to improve mobility. Since all subscribing banks would be permitted to buy and sell approved instruments in the market, the competitive flow, of funds would be enhanced. This would strengthen the banking system, not weaken it, and both money center and rural banks would benefit.

Some individuals in the Federal Reserve System and FDIC are likely to object to their organizations taking on the additional functions proposed in this paper. One source of concern will be the use of present funds to provide the initial capital for the proposed market. It can be argued that this would dilute capitalization of the two organizations, since much more activity'would be backed without adding new capital. The argument is valid, but it should be pointed out that as the new activities expand, fees would provide additional capital. Reserves would also be expanded as activity increases. Hopefully, good management and a realistic fee structure would enable the market to cover costs and build up reserves. As has been pointed out, the experience of comparable agencies created by Congress has been good. With the experience of the Federal Reserve and FDIC, the additional increased risk exposure should be minimal.

A number of individuals, including some rural bankers, contend that a market of the type proposed would cause rural interest rates to be higher than under the present system. The argument is valid only for some individuals, and then only part of the time. Historically, interest rates in many rural areas have been highly inflexible, resulting in relatively low rates at some times and relatively high rates at other times. During the episode of high interest rates early this year, special provision was made to provide for lower rates for farmers.

A number of rural bankers indicated they were able to get farm overline loans with their city correspondents at below prime because they carried good compensating balances. Other rural bankers indicated they were taking overlines to the local PCA, where rates were more favorable than with their city correspondent. Such comments imply that farmers were getting better than competitive rates, but at least four observations must be made: (1) This was the same period

that many farmers were complaining about being unable to obtain credit to plant their crops, (2) There have been more times during the past decade when farm loan rates were substantially above prime rates than when they were below, (3) With the historical inflexibility of rates, PCA's and a number of rural banks held rates below market rates by operating on reserves, on the accurate assumption that the abnormal levels would be short lived, and (4) Low rates based on large compensating balances are a subterfuge. Although one could devote a complete text to this topic, good competitive markets would minimize the abnormal swings in rates, cause better allocation of credit, and, on average, lower rather than raise interest rates. Only those few who actually might have been receiving subsidized rates for some reason would end up paying higher rates.

Summary and Conclusion

Rural banks have difficulties in providing financial services to their communities that are not confronted by their contemporaries. This has had an impact on the flow of financial services geographically and has created problems for both individuals and commercial banks in capital-deficit rural areas. Since basic monetary policy is implemented through the capital markets, it is necessary that these markets be highly competitive and allow funds to flow freely to where they are needed.

Historically, the banking system has not always functioned effectively in achieving a high degree of mobility in the flow of funds. For example, Congress passed legislation creating and developing the Farm Credit System to improve the flow of credit to rural areas. The Farm Credit Service has done an excellent job of improving the competitive flow of funds to agriculture. The same objectives could have been achieved through the banking system had it not been inhibited by institutional rigidity and, in some instances, by bank management. The major weakness currently is that rural banks in capital-deficit areas continue to be inhibited from performing their job by institutional barriers, and existing provisions for bringing capital into these areas for nonagricultural purposes remain woefully deficient. With rural areas now growing more rapidly then metropolitan areas, effort must be devoted to improving mobility in capital flows if many rural banks are to properly service their communities.

The problem has been studied for several decades, but to date most

efforts at solving the difficulty have taken the direction of creating nonbank financial institutions to enhance the flow of funds to certain regions and sectors of the economy. This makes it more difficult for banks to effectively compete, since the nonbank agencies operate with different rules and regulations, under different authorities, and with different organizational and procedural requirements. The result is that commercial banks, the major financial institutions through which monetary policy is implemented, find it increasingly difficult to provide adequate financial services to their constituents.

The problem is urgent. Yet neither the banking system nor the regulatory authorities have been able to resolve the difficulty under the present institutional environment. What is needed is enabling legislation which will permit prevailing bank regulatory agencies to provide services for subscribing banks that will result in improved competitive financial services for all facets of the economy. It is believed that an intermediary market of the type proposed will provide banks with the necessary flexibility for better serving the economy.

Commentary

Walter W. Minger

Mr. Doll has titled his presentation "A New Market to Provide Loanable Funds to ***Rural*** Banks." I believe this is the constituency that would have the greatest interest in the subject, although it will probably be both urban and rural small banks, and possibly even banks of regional size, that will be interested in alternative sources of loanable funds.

The nature of the economic activities, or at least the way in which these activities are organized in the non-urban areas, is changing. Banking, and indeed all financial aspects, must of necessity change also. Rural banks have been trying to do business in a 20th and soon 21st century environment with late 19th century tools and products. Hence, it is particularly apropos that we consider Mr. Doll's presentation as a possible method to help rural banking fit into the new financial environment.

There is another aspect of the rural environment that will cause rural banks almost as much concern as has the problem of an adequate money supply. The title of Mr. Doll's paper gives a clue to this other aspect.

In years past, most rural banks have been involved in the principal business of their customers, production agriculture. Seasonal credit requirements were reflected in the swings in loan outstandings and in the loan-deposit ratios throughout the farm year. Farmer balance sheets did not (and do not now) exhibit very high leverage. Things in the rural areas are beginning to change, and the rate of change is accelerating: (1) There is a move from the city back to the country. (2) The non-urban inhabitants are viewed as untapped or only modestly exploited sources of deposit funds. **(3)** Rural areas are viewed as desirable locations for industry. (4) There is a growing tendency by

farmers to integrate forward into the processing and marketing aspects of the food system. (5) Increasing amounts of purchased inputs required in the food system, particularly in the production phase, are resulting in farmers integrating horizontally into the input supply sectors of production agriculture. (6) In some areas, multinationals and large corporate interests are entering the supply, processing, marketing, and service aspects of the food system. (7) The growing urbanization of the countryside adds yet another dimension.

The rural banker's world is no longer simple and uncomplicated, no longer peopled by lifetime friends and acquaintances. The rural banker is now beset by all kinds of people and organizations that seem to be greedy, avaricious, aggressive, too profit-oriented. All seem to be less constrained by custom or legalities in pursuing their various objectives, all of which all seem to focus on taking away a share of the rural banker's business.

While an over-simplified observation, it is nonetheless true that the simple 90-day farm note is no longer adequate to meet the needs of the people coming in the front door of the rural banks. In some markets, things are so competitive the bankers are obliged to bring their products and services out to the customers' homes or businesses. And in a few test areas, banking business is conducted by wire, with no face-to-face contact at all between banker and customer. People want home loans, farm real estate loans, consumer credit to purchase $10,000-15,000 cars and $1,000 refrigerators, large advances to send the youngsters to college, short- and long-term business loans, inventory financing, investment loans, loans to acquire another entity or to buy out a partner, production credit to farm and seasonal credit to run a business. Companies want unsecured loans predicted on balance sheet ratios and corporate performance, plus all the services such as loan accounting, payroll, money market investments, trusts, etc.

No one is truly isolated any more. The readership of the Wall Street Journal and the various investment letters issued by fund managers and brokerage houses is probably higher on a per capita basis in the rural areas than in the cities. People have a much better awareness of what their money is worth. And there are more people around who are going after the rural inhabitants' money. The need for capital is growing at a pace that some predict will result in the supply of money falling short of need at some point in the future. These increasing capital needs are worldwide in scope. Users of funds in one industry

in one geographic region are competing with users of funds in another industry and another area. The pool of money is being tapped by many. Each one of us has a straw in the soda. The pool, as the soda, is finite in quantity. The question I must answer then is, "Does Mr. Doll's recommendation meet the needs of the rural banker for loanable funds?"

A defect in his proposal is that the notes or other evidences of loans underlying and collateralizing the securities sold to the investing public lack commonality. To the best of my knowledge, all securities offered in the market today are supported by assets which have, depending on the instrument, great similarity.

The proposal anticipates a need by a rural bank for funds that will be utilized by lending short, intermediate, and long to borrowers who are consumers, farmers, business people, corporations, partnerships, public bodies, etc. Each of these borrowers will have varying degrees of financial strength and will report their financial conditions in various ways and with varying levels of exactness. The underlying security will be equipment, land, real estate, contract rights, unsecured notes, livestock, warehouse receipts, etc. The banks themselves will be diverse in character, performance, financial strength, operations, and in the formats and documentation used in loan administration.

It is difficult to see how the paper of banks would be readily accepted absent the clean, uniform qualities built into other collateral presently supporting some of the investor-accepted instruments.

To overcome the shortcomings arising from having many originators of loan paper (the securities that will support the issue of the debt instruments to be sold to investors), Mr. Doll suggests that the agency become the instrumentality for promoting uniformity of procedures and documents in the banks having ownership in the agency. This may be successfully accomplished, but I believe the small banks will need to be under much more stress over lack of loanable funds than they are now to willingly forgo their independence. Yet the investor will shun an investment that incorporates any problems. He's not concerned with our problems. We need to be concerned about his needs. That's why I don't believe one type of investment security can be collateralized by paper evidencing loans made for varying terms — short, intermediate, and long — and by various types of assets, and still be a merchantable security.

Organizations similar to the one Mr. Doll suggests may already be

in existence or in the process of being formed. Two organizations were founded prior to legislation. The six in-process became possible as the result of a little noticed amendment in Section 711 of the Depository Institutions Deregulation and Monetary Control Act passed in 1980. Only national banks can presently take advantage of this provision. State chartered banks and interstate bank holding companies would appear to have greater difficulty in organizing a like-type fund-gathering entity because of permissive legislation required in each state. In utilizing the funding capabilities of one of these "bankers' banks," rural national bank stockholders may gain some advantage over their state bank competitor, but only to the extent that loanable funds are provided.

Cost of funds is not the advantage built into this concept. A means to acquire loanable funds is the major reason for interest by smaller banks.

As permitted by the Act, the CD's that are sold are essentially backed only by the faith and credit of the underlying stockholder bank. There is no other collateral or security. It seems to me that one of the requirements any marketer of money market instruments must meet is to be in the marketplace regularly with an adequate offering of securities. To date, the volume sold by so-called "bankers' banks" would not seem to meet this criteria, which I believe should be at least $100 million per month. Regular availability, which implies an adequate number of sales, enough volume, and the maintenance of secondary market, are keys to the success of a new funding and discounting mechanism. Mr. Doll has not spoken to the need of a secondary market, which is a necessary ingredient for a market instrument designed for high liquidity.

If the chartered national banks can successfully organize, implement, and operate a financial instruments marketing mechanism of the type the recent legislation would allow, or as Mr. Doll proposes, the owners and users would gain some benefits. The resulting entities may well be highly competitive, but a dramatic increase in the number of marketing agencies bringing the same or similar products to market could tend to confuse the investors and limit market acceptance of the concept. An aggressive marketing campaign to attract investor interest to the new market's securities might well divert funds presently invested in agency paper. In this manner, the present level of investment in agricultural financing may not be enhanced, but merely redistributed among a larger number of securities.

The question of alternative investments for bank funds may be germane to the discussion. Mr. Doll suggests that capital now tied up in Federal Reserve Bank stock be used to capitalize a marketing organization under the aegis of the Fed. By allowing this means of providing paid-in capital, the Fed would permit its stock to do double duty.

If this is not acceptable, then a venture privately organized among the rural banks might be more feasible. I would suspect that given the opportunity to create a collateral base having several important characteristics — (1) geographical dispersion of risk, (2) dispersion of risk over a broad spectrum of different types of loans, **(3)** risk dispersion over varying period of time, (4) some risk distributed over different borrowers (individuals, partnerships, corporations, Sub-Chapter S corporations, public entities, and political subdivisions) — might permit greater use of financial leverage than has traditionally been permitted by bank examiners. If a bank's equity contribution to the new corporation could be leveraged 25 or 28:1, as is the case with large banks, or 100:1 as Mr. Doll proposes, there could be several benefits to the stockholder banks.

Funds invested in the new venture may have a better return on investment than any other investment a bank can make. With high leverage there is less demand on the cash flow of the marketing venture for dividends on invested capital. Of course, with high leverage goes the parallel needs for skillful management of assets and liabilities, building and maintaining adequate loan'loss reserves, providing default insurance, and the like, so that the most significant aspect of the cost of doing business, the interest expense on securities purchased by investors, can be easily covered by interest earned on loans.

It seems to be that rural banks will continue to be more heavily involved in agricultural credit than any other type of loan. It is absolutely imperative that any financial marketing organization set up by banks have sufficient leverage so that the major drain on cash generated from operations goes to pay interest to investors while a minimal amount goes to dividends.

I hope Mr. Doll's recommendations will serve as a catalyst for further discussion and research. What is proposed is quite complex. It encompasses an organization that will (1) Offer securities to the investor market of a quality that may result in interest rates possibly only a few basis points above those enjoyed by government securi-

ties, (2) Maintain a pool of assets comprising the debt instruments of the various kinds of customers the investing banks have loaned money to, (3) Serve as the distribution point to allocate funds from the pool of investor-provided money as the shareholder banks apply, (4) Supervise the credit criteria, standards, documentation, extent, and quality of financial exhibits that shareholder bank staff must utilize if the funding sources are to be made available to the shareholder banks, (5) Control the creation and growth of sizeable reserve accounts and bill and collect the fees assessed to shareholder banks, provide a means to distribute participations in over-limit credits made by shareholder banks, and referee the settlement of defaulted loans, and (6) Roll over the securities issues as they mature, pay principal and interest to investors, and maintain a secondary market for the investor securities.

I suggest that the proposal is too complex to have bankers, the Federal Reserve System, Congress, investors, the Comptroller, the FDIC, and other friendly and unfriendly competitors either endorse or not actively oppose the creation of an institution — a sizeable new money market force — that does very much more than provide for discounting privileges or loan funds. Yet getting into bank supervision and over-limit loan participations, and permitting funding activities in which the equity or capital supporting the lending function is much more highly leveraged than is traditional, as well as imposing uniform operating standards and procedures, are probably necessary if the new market is to float an acceptable investment instrument.

Mr. Doll has proposed anew an idea that has attractive features and would serve the funding requirements of a great many rural bankers. The good aspects outweigh the defects. But the shortcomings are not the real inhibitor in getting things such as this proposal underway. Both the Federal Reserve System and the Congress of the United States have proven to be more adversaries than supporters of commercial banking and of the efforts the industry has made to resolve serious problems in the farm credit field.

New Opportunities in Liquidity Management

Donald C. Miller

The assigned purpose of this paper is to explore new opportunities in liquidity management. The term is understood to mean a profitable mix of asset and liability management in the demanding new economic environment that is developing. My own preference is for the term "balance-sheet management" as a more accurate and concise way to describe the process.

To establish a kind of controlling context for this discussion, I first will review some of the circumstances surrounding the passage of the Depository Institutions Deregulation and Monetary Control Act, its meaning for financial institutions, and especially its effects on liability management. The latter two portions of the paper will deal first with broader funds management techniques of large banks and then with funds-management challenges and opportunities for smaller agricultural and community banks.

During the past three decades, funds management at large commercial banks has been characterized by three basic approaches. In the 1950s the focus was on the asset side of the balance sheet. It shifted to the liability side in the 1960s and early 1970s, and in the second half of the 1970s the two methods were integrated.

Although some of the important methods and techniques that may be employed by large banks will not work for banks whose resources are more limited, there obviously are useful parallels that apply here. This suggests at the outset that one of the strongest assets a smaller bank can develop to guide it through the coming years is a flexible management attitude. The scene can be set quickly with a brief summary of three key aspects of the current banking environment.

First, the banking industry is losing its strong position as a financial intermediary. There are several powerful factors behind this development, all related to inflation.

Inflation and the consequent volatility of interest rates that we will continue to experience are hurting the ability of banks to achieve what have been traditional funding profits. The staple policy of lending long and borrowing short has been made obsolete by the negatively sloped yield curve. Traditional approaches to asset and liability management must be changed, as I shall discuss later. Also, it is difficult to remedy this problem by switching customers over to floating-rate loans when the borrower evaluates the effects of inflation in much the same terms as the lender, so many problems of how to handle the demand for long-term, fixed-rate loans remain unresolved.

Second, banks of all sizes are losing their quasi-monopoly positions in the financial services industry — positions they had held because of geographical location. Merrill Lynch is moving strongly into the competitive picture with its diverse array of financial services. Major banks are issuing credit cards nationwide, and most large banks are opening Edge Act offices and loan production offices all over the country. Foreign banks are entering major cities like Chicago and New York and those in California en masse. Sears soon will be issuing its own notes to your customers.

Third, the long-standing web of regulation is coming unraveled, leading to the blurring of traditional distinctions not only among types of deposits but among financial institutions themselves. The major groundbreaking development in this respect has been the Depository Institutions Deregulation and Monetary Control Act of 1980, which mandates the orderly phaseout of Regulation Q and makes other changes in the regulatory structure that will affect the balance-sheet management policies of banks.

All of these developments have their root causes in the onset and continuing pressure of inflation, which has begun to change policies and institutions. As the psychology of inflation becomes more fixed, the changes catalogued here will become more rapid.

The Advent of Deregulation and Its Effects

Escalating inflation in recent years, with the resulting rise in interest rates and the growing uncertainty about the course of economic activity, had increased pressure on Congress to pass the Deregulation Act. The gap between Regulation Q rates and market interest rates widened rapidly as market rates rose to record levels in

1979 and continued to trend upward through the first quarter of 1980. During this time, stop-gap measures in the form of newly authorized liability instruments were introduced. The six-month money market certificate created in 1978 with a $10,000 minimum deposit was designed to prevent financial institution deposits from moving directly into the money market, and the 2½-year certificate was added in January 1980 for the same purpose.

These measures failed to help small savers, who could not meet minimum deposit requirements, and they failed to prevent nonregulated institutions from attracting these and other deposits from banks and thrifts. In 1979, money market mutual funds almost doubled in size to approximately $60 billion, and currently they have around $80 billion in outstandings. These funds offer money market rates of interest while providing more liquidity than recently authorized instruments designed to compete with these funds.

Rising interest rates and accelerating inflation also increased the flight of commercial banks from the Federal Reserve System. Noninterest-bearing reserves held at the Fed became increasingly costly as market rates pushed higher and higher. As more banks left the Federal Reserve System, it had fewer and fewer reserves under its direct control, and it argued that as a result monetary policy was becoming more difficult to implement effectively. Also hindering monetary policy was the growing volume of NOW accounts and other transactions accounts at nonbank institutions. These events added to other pressures on the Federal regulators and on Congress to bring the rules into better conformity with current market forces.

This increasingly volatile and uncertain climate was generating new methods for survival in the commercial banking sector. Major examples include the rapid expansion of variable or floating-rate loans and widening use of the futures market to hedge interest rate risk. But liability management, particularly for non-money center banks, continued to be a major problem because of Regulation Q ceilings.,Even where small banks were able to maintain their deposit base, Regulation Q severely restricted their ability to coordinate the structure of assets and liabilities by adjusting rates and maturities of instruments to make them marketable.

These distortions in the financial system had a major influence on the omnibus Deregulation Act that became law in March of this year. The rules that it changed or eliminated have both direct and indirect implications for liability management. The phaseout of Regulation Q

has major significance, while imposition of uniform reserve requirements, authorization of nationwide NOW accounts, and pricing of Federal Reserve services have an important, but less direct impact.

Title II of the Act extends the authority to impose rate ceilings for six years, while establishing specific standards for adjusting these ceilings to market rates of interest. During the six-year transition period, an interagency committee will oversee the elimination of Regulation Q. This Depository Institutions Deregulation Committee is composed of the Secretary of the Treasury, the chairman of the Board of Governors of the Federal Reserve, the chairman of the Federal Deposit Insurance Corporation, the chairman of the Federal Home Loan Bank Board, and the chairman of the National Credit Union Administration Board, all as voting members, and the Comptroller of the Currency as a nonvoting member.

The Act directs the committee to provide for the orderly phaseout and ultimate elimination of Regulation Q as rapidly as economic conditions allow. But as of March 31, 1986, all deposit interest-rate ceilings will end, and the DIDC will be abolished. In the interim the committee has considerable latitude in determining how rapidly the phaseout will occur, but it cannot establish rate ceilings that exceed market rates. Specific increases are not established in the Act, but the committee must meet periodically to vote on whether to establish specified minimum increases of Regulation Q limits.

Therefore, on the basis of the guidelines set out in the Act, we should expect at minimum a ¼ per cent increase in Regulation Q limits in September 1981 and minimum ½ per cent increases at the end of March of 1983, 1984, 1985, and 1986 on all categories of deposits. But the committee could make these rate changes larger or smaller according to economic conditions.

It also should be kept in mind, while factoring these interest-rate changes into liability management planning, that the committee has additional powers that allow it to completely eliminate restrictions that apply to a particular category of accounts and to create new categories of accounts not subject to limitations or with current market rates as limits. For example, the committee could remove the 180-day maturity restriction from the money market certificates of deposit but maintain the $10,000 minimum deposit. Or it could remove completely interest-rate restrictions on the 2½-year certificates. Therefore, we should expect that the actions of the committee will result in more flexibility for liability management as the phaseout progresses.

The committee already has used its authority to alter the ceiling rates payable on both six-month and 2%-year floating rate deposits whose ceiling rates have been tied to interest rates on Treasury securities with comparable maturities. These actions set higher ceilings for these deposits by changing their relationship to the yields on Treasury securities and established minimum ceilings for each. The committee also has decided to eliminate finder's fees and raise the maximum, value of premiums banks can offer for deposits, while restricting the methods banks can use to compute premium costs.

Other changes legislated in the Deregulation Act will have an effect on liability management but will not be under the supervision of the committee. For commercial banks and other depository institutions, the cost of deposits will change because the Federal Reserve System will phase in universal reserve requirements over an eight-year period. The Act requires that the System also open up its services to all depository institutions and explicitly price each service. In addition, all regulated financial institutions will have the authority to offer NOW accounts beginning in 1981.

Both reserve-requirement coverage and percentages will change under the Act. A 3 per cent reserve against transaction accounts totaling $25 million or less and 12 per cent for all transaction accounts over $25 million are the initial requirements. Nonpersonal time deposits will require an initial 3 per cent reserve. Personal time deposits no longer will require reserves.

For nonmembers of the Federal Reserve System, these requirements are new, but vault cash, which is sufficient to cover required reserves in most small institutions, can be counted as reserves. Thus, except for the very large institutions, the expansion of reserve-requirement coverage will have a minimal effect. Moreover, for member banks, these required reserve ratios are less than the ones in existence prior to the Act. Most institutions, therefore, will not be affected, but member banks that are affected will find that they have more resources to acquire earning assets.

In 1981 the Federal Reserve will begin pricing its services and making them available to all depository institutions. The additional cost of these services probably will add only a minimal amount to total noninterest expenses. But direct access to Federal Reserve services could prove beneficial at times for portfolio management, depending on the banking organization.

The nationwide extension of authority to offer NOW accounts for

all depository institutions will affect both the cost and competitive structure of the industry. These demand accounts can be offered with an interest rate of up to 5¼ per cent, which eliminates the prohibition against interest payments on demand deposits. As a result, institutions will be able to price deposit services more effectively and adjust the price as competitive conditions change. At the same time, many more competitors will be offering these services — savings and loan associations, mutual savings banks, and credit unions — so competitive pricing will become more important for maintaining a stable and growing deposit base. Developing a new service in a market with new competitors undoubtedly will create transition shifts of deposits from institution to institution until a stable pricing system or systems evolve in the competitive market.

These reforms, will be more equitable for financial institutions offering similar services. But they also will alter the cost structure for banks and thereby have an effect on liability management decisions. Moreover, the Deregulation Act requirement that the Federal Reserve begin explicitly pricing its services is likely to alter the cost structure of a bank's overall operations and so have an effect on efficient liability management.

The changes in the regulatory environment have their main focus on the liability side of the balance sheet. Phasing out interest rate limits on deposits will allow banks more freedom over managing the size of interest-rate-sensitive asset and liability gaps, giving them — particularly smaller banks — better control over liabilities. At the same time, other changes incorporated into the Act will broaden the competition for deposits, which will tend to decrease interest rate margins between assets and liabilities. Still, on balance these regulatory changes should increase flexibility for more efficient balance-sheet management.

Small banks especially will feel the effects of the Regulation Q phaseout and NOW account authorization, because their asset flexibility has been much more constrained than that of larger banks. Other than the maximum interest rates payable on NOW accounts, banks will be able to offer competitive rates for deposits. They can produce deposit services that provide liquidity and yield tailored to customers' needs, perhaps allowing people to design their own accounts, given some specified limitations. Phasing out Regulation Q also will mean that restrictions on premiums will be eliminated, so interest can be paid at any time either as explicit interest or as a

premium. These changes will make banks much more competitive with money market mutual funds and should help reverse the flow of deposits from the small banks into these funds.

The effects of the changes in the law will be most pronounced on smaller banks, but large banks also will be adjusting to the altered environment. It is appropriate, therefore, to examine some of the principal approaches that large banks are using and their possible applicability to community banks.

General Techniques of Funds Management at Large Banks

As the economic, regulatory, and financial environment has changed, large banks have responded with innovative techniques of funds management appropriate for the changing times. Before the emergence of liability management, the traditional asset allocation or asset management system was practiced by most banks regardless of size. This approach required bankers to adjust the composition and quantity of assets to changes in the amount and mix of deposit liabilities. The liability structure of the institution was passively accepted as being determined by the local marketplace. Available funds were employed according to strict priorities. First legal reserves had to be met, and then liquidity needs were fulfilled by the maintenance of secondary reserves consisting of very liquid, short-term assets. After legal and liquidity requirements were satisfied, existing credit demands were met by making loans, and any remaining funds were allocated to fixed-income investments. In short, the quantity and type of deposits determined the level and nature of assets held by a bank.

One development exerting major impact on the structure of large-bank balance sheets and the techniques used to manage them was the secular increase in inflation since the 1960s. This resulted in tremendous credit demands that presented banks with numkrous opportunities to expand their loan portfolios. Since the slow growth in demand deposits caused by Regulation Q and increasing efficiencies in cash management coincided with expanding credit demands during the 1960s, banks turned to purchased funds, or liability management, to satisfy lending requirements. Other trends during recent years have pressured larger banks into greater reliance on money market funding. One such factor is the statutory deregulation of financial intermediaries.

In recent years, the tremendous volatility in interest rates has necessitated the evolution to funds management techniques that can deal with the consequent volatility in bank earnings. These highly volatile rate patterns are a result of the Federal Reserve's monetary policy response to persistent, high inflation rates. The Fed's strategy during the last year has emphasized control of the growth path of the monetary aggregates as opposed to the stabilization of interest rates. This approach, producing a quite restrictive monetary policy, has precluded banks from consistently relying on a positively sloped yield curve to generate short-funding profits. With the rates on assets and liabilities fluctuating wildly, banks are striving to control the spread on the sources and uses of their funds. Accordingly, the central focus now is asset and liability management. The techniques of the two approaches — liability management and asset and liability management — will be described below.

Liability management for many banks is the practice of acquiring funds through the issuance of short-term bank liabilities in the money markets. It involves banks competing generally for funds on a price basis. By purchasing or borrowing money in the open market, banks can obtain funds to meet reserve requirements, liquidity needs, loan demand, and investment opportunities. With liability management, funds requirements and asset growth can be met by adjusting the quantity and composition of liabilities. This contrasts with the historical approach of asset management, under which bankers passively accepted their deposit liabilities as provided by the public and allocated them to meet needs of varying priorities.

Liability management, then, is the management of purchased or discretionary funds. This theory of commercial bank liquidity can be labeled as discretionary funds management, because it involves the control of interest-sensitive funds that can be increased or decreased at a bank's initiative or discretion. It excludes non-discretionary funds, that is, assets and liabilities over which the bank has little immediate control. Some of the liabilities that are considered to be discretionary in the short run include Federal funds, repurchase agreements, certificates of deposit, Eurodollar deposits, and commercial paper. These instruments of liability management developed sporadically as various sources of funds were made unavailable through regulation.

The basic objectives of liability management involve insuring the availability of purchased money as it is needed, minimizing the cost

of these funds, and planning strategically to meet long-term funding requirements that permit a desired rate of asset expansion. The thrust of liability .management is to acquire all the money one can employ and to structure the maturity of the liabilities in synchronization with the interest rate cycle. Initially the most critical endeavor of discretionary funds management is the problem of liquidity management or maintenance, the availability of adequate financing for a bank's activities through all interest rate environments.

Liquidity is the ability to raise cash on short notice to offset cash drains over time with a minimum of profit disruption. Banks have quite special liquidity requirements because it is the nature of their business to make commitments to receive and pay out funds upon demand. A customer may choose to draw down a line of credit or a deposit, roll over a loan, or make payment against an outstanding loan. The liquidity problem for banks is always to have the ability to honor these commitments. Liquidity is essential to banking because the inability to meet cash demands could mean failure or at least an impairment of confidence in an institution.

Liability management has changed the methods employed by banks to meet liquidity needs. Prior to 1960, banks measured liquidity in terms of the amount of readily marketable assets that were held. These assets were termed secondary reserves and consisted of U.S. Treasury bills and notes, plus broker and dealer loans. The concept was the storing of liquidity in readily marketable assets to meet loan demand or deposit withdrawals. Liability liquidity, on the other hand, is the technique of raising cash by purchasing funds. It is specifically the ability to issue additional liabilities over and above the ones already outstanding. The greater the amount of outstanding liabilities, the less liquidity there is available. The use of untapped borrowing potential for liquidity purposes is the essence of this approach.

It is very difficult to quantify liability liquidity: Some institutions have attempted to measure it by calculating their current market share in a certain liability instrument like certificates of deposit and comparing that statistic with the average percentage taken by the bank in the past.

If a bank is below its average share, it can expect to issue additional liabilities without much difficulty. Unfortunately this is a simplistic analysis that leaves a great deal unanswered about liability liquidity. Uncertainty over untapped borrowing potential is a genuine limita-

tion of liability management. For this reason, the first priority in implementation of the liability management approach is maintaining the availability of funds.

Insuring the availability of adequate funding initially requires that senior management develop a set of explicit guidelines that specify sound operating procedures and constraints on behavior in regard to funding activities. The approach applied in funding describes the philosophy of the bank's management in this endeavor. Whatever philosophy is adopted will, of course, determine the manner in which a particular bank guarantees the availability of money. To augment the availability of funds, management should give consideration to the following factors:

Source diversification. Since large banks depend heavily on the money markets for their liquidity, it is prudent that financing be sought from a variety of sources and instruments. Diversification of liabilities applies just as it does in investments with diversification of assets. Institutions like to maintain a presence or visibility in various markets to enhance diversification. Thus, even if a particular market is not the most economical, a bank may borrow in it just to maintain it's access to those funds. Furthermore, banks like to maintain diversification within each category of discretionary funds in order to avoid taking excessive amounts of money from any one supplier. A profile of financing obtained from various instruments and customers should be analyzed to avoid concentration of funding.

Source development. Expansion and better utilization of a bank's natural customer base are probably the most efficient way to improve the availability of funds. To accomplish this, it is necessary to inform calling officers about financing activities and requirements and encourage them to solicit customer funds. Assistance should be provided in identifying and contracting potential funding sources. To increase the direct placement of liabilities with customers, it is necessary to meet the needs of the customer. A bank must be willing to take money in the instrument and maturity where it is offered. There must be an accommodation of a variety of customer preferences.

Funding capacity and market exposure. To insure liquidity maintenance, it is crucial that an institution employing liability management not exceed its capacity to borrow. This can be accomplished by subjectively appraising the capability for acquiring funds in each particular liability vehicle. It requires good judgment, prudence, and

estimation. Actual use of a particular market can provide insights as to the extent that the market will absorb a bank's paper. The acquisition of funds beyond the perceived, appropriate share of a market can reflect negatively on a bank's condition.

Abuse of access to the marketplace can be interpreted by market participants as an indication that an institution is experiencing some internal difficulties. There must be a reluctance to surpass borrowing capacity for fear of damaging one's reputation or the value of one's name, incurring the risk that all segments of the market would be closed or only accessible at above market rates.

Period run-off limits. Since maturing liabilities represent a 'liquidity drain, their runoff must be regulated. Limits must be established for the maximum dollar amount that can mature in a particular week or month to avoid excessive liquidity drains.

Maximum *country/currency* limits. Today global perspective is necessary in funds management because capital controls no longer limit the movement of funds between domestic and foreign markets. Many lenders of funds are foreign nationals and governments, so limits must be set for funds taken per country to supervise exposure to political risk. Since the movement of currencies is likewise not constrained in the international markets, these funds are available for borrowing. To manage the risk of fluctuating currencies against the dollar, limits must be established describing the extent to whrch such exposure will be accepted. Often foreign-exchange risk can be eliminated or modified by hedging currency positions.

Balance sheet structure. Financing activities should be undertaken with an intention of maintaining a stable balance sheet in terms of the percentage composition of liabilities. A financial structure that differs markedly from the industry or peer-group norm draws undue attention to funding activities and risks complicating the task of funding. A shift in balance-sheet structure could impose unanticipated changes in the perceived riskiness of bank's securities.

Organization. Funding, more so than many activities, is done in response to 'market opportunities. Under these circumstances, for large banks the funds-gathering unit must be structured to provide an organization with enough flexibility to take advantage of opportunities in various domestic and international markets. The need for a unified, coordinated approach toward raising money in the worldwide markets provides much of the initiative for global funds management. Proper coordination among the reserve position man-

ager, the term liability manager, the Eurodollar position manager, and the foreign exchange traders will lead to more economic and diversified funding.

The preceding seven items are essential considerations for maintaining access to the money markets. Funds cannot be borrowed unless the market has confidence in the buyer. This confidence is determined by the conduct of the institution in the market, which is a function of management's philosophy or operating approach.

Minimizing Interest Expense

After the availability of funds is assured, the second major objective of liability management is to minimize the cost of purchased money over the interest-rate cycle. To achieve this end, the proper mix of liabilities must be determined, and the appropriate average maturity must be 'built into the deposit structure. Aside from availability aspects, the various instruments of liability management have two other variables that must be examined in constructing the optimum portfolio of liabilities.

These elements are the all-in cost after reserves and the maturity of a particular funding vehicle. Instruments that are considered borrowings, such as repurchase agreements and Federal funds, are free of reserve requirements and tend to have the lowest nominal and all-in interest rates. Yet the maturity of these instruments is quite short-term, typically one day. Deposit liabilities such as Eurodollars and certificates of deposit usually have greater nominal and all-in costs than borrowings, are subject to reserves, and are available in maturities of up to, generally, 12 months. Reserves increase the all-in cost of money because a portion of the funds raised must be placed on deposit at the Federal Reserve. Obviously, when rates are expected to rise, greater reliance is placed on term-deposit sources of funds to lock in money at existing rates. Borrowings may, at the moment, be less expensive, but they provide no protection against higher rates. In this situation, the average maturity of deposits should be extended to provide an additional hedge against rising rates. History indicates that expanding the volume of term liabilities outstanding and lengthening the average maturity of deposits early in a business expansion have been an economical strategy to follow. Of course, when lower rates are anticipated, a shift to a greater mix of borrowings and a shorter average maturity in the deposit book is desirable.

The proper composition and maturity of liabilities are determined

by the trade-off of cost against maturity. To provide proper perspective, it must be noted that this exercise would be merely a rather simple, mechanical procedure if one possessed a reasonably accurate interest rate forecast. Again, the persistence of inflation and the difficulty of judging its psychological implications have made this a strenuous and often frustrating exercise.

Written Directives

For implementation purposes, the tactical strategies of liability management should be documented through written directives. Liability managers typically meet formally with senior management to draft such a document, which details the money-management approach and guidelines to be followed in the short run. A review of each potential source of funds is conducted with regard to relative costs and percentage utilization in each market. Explicit upper and lower parameters on the level of activity in any single market are determined. The act of formulating directives promotes a sense of involvement on the part of the line officers, and it provides a convenient forum for briefing senior management on recent developments in the market. Finally, global money-gathering activities are executed in a more coordinated and purposeful manner at all levels of the organization. The directive is an effective communication device by which strategies are relayed to those responsible for implementation.

Strategic Planning for Long-Term Funding Requirements

The provision of adequate liquidity is not a static problem. Long-run planning must provide for dynamic growth of adquate liquidity over time so as not to hinder the basic growth of a bank's assets. Initially in the planning process, asset managers throughout the bank must be surveyed to ascertain the volume of assets that is expected to be carried over the planning horizon. Next,. projections of the capital account must be undertaken to determine whether projected asset volumes can be comfortably carried. The capital adequacy question is a subjective and complex one. The proper amount of capital hinges on what bank management perceives as prudent, what capital-asset ratio or leverage a bank's peer group maintains, what supervisory authorities view as acceptable, and ultimately the judgment of the marketplace. The leverage desired by a particular institution will determine the need to raise additional capital in order to meet planned growth. If capital cannot be raised at an acceptable cost, growth in

assets may have to be limited in the long run by the requirement to remain within the range of proper capital coverage.

Finally, the growth of basic funding liabilities or uncontrollable liabilities such as demand and savings deposits must be projected. Combining planned asset expansion and non-purchased liability growth with due consideration of leverage constraints defines a funding gap that must be met. The risk being tracked by the strategic planning process is the inability to meet the financial deficit at any point in the plan. Management of this risk involves the projection of sources of liquidity, including asset liquidation and runoff and incremental funding sources, and the structuring of a mix of takings from these sources to assure that funds availability is held at a level consistent with management's desires. The point here is that planning will allow this risk to be controlled.

Balance-Sheet Management at Money Center Banks

In the last five years, with an environment often characterized by extremely volatile interest rates, greater dependence on purchased funds, and a negatively sloped yield curve, large banks have consciously attempted to build in a profit spread or interest margin between their money market borrowings and the assets supported by these liabilities. The goal is to limit exposure to interest rate risk and manage earnings more precisely by making asset yields sensitive to movement in money market rates. The linking of asset and liability yields to manage the components of the balance sheet as a unit has become widely known as asset and liability management.

This is a coordinating exercise by management to structure both sides of the statement of condition in a manner appropriate to meet income goals without taking unacceptable exposure to interest rate risk. It is likely that asset and liability management, or balance-sheet management, will continue to be the dynamic discipline of banking in the 1980s.

Early attempts at asset and liability management took the form of manipulating the sensitivity ratio, which is merely the quotient obtained by dividing the interest-sensitive assets by the interest-sensitive liabilities. This system centered on controlling the volume of interest-sensitive liabilities against such assets, so that the associated costs and revenues moved together, optimizing the profit spread between the sources and uses of money. An obvious required

step in this practice is defining assets and liabilities that are interest-sensitive, i.e., that possess rates that change in step with open-market rates. Unfortunately, the definition of interest-sensitive is quite arbitrary, which later led to the development of gap analysis, the difference between assets and liabilities at certain maturities. Some institutions assumed that assets and liabilities of 90 days or less in maturity were rate-sensitive, while others selected one year as the boundary. Regardless of definitional problems, the principle is to control the sensitivity ratio in relation to the outlook for interest rates.

For example, if a bank were very certain rates were on an upward trend, it would set a target ratio of, say, 1.3 or so. In this case, the interest-sensitive assets would exceed the volume of the interest-sensitive liabilities of 30 per cent, permitting income from assets to rise more rapidly than expenses associated with liabilities. If the outlook were uncertain, a conservative stance would be to balance the interest-rate-sensitive volume of assets and liabilities by setting a target ratio of one. This strategy assumes that a bank has a reasonable degree of control over interest-sensitive assets and liabilities.

A more advanced and precise means of tracking and managing interest-rate exposure of the balance sheet is interest-rate-sensitivity analysis. The sensitivity of an asset or liability is defined by the time period — the tenor — that elapses until the next potential repricing of that item. The period may be shorter than the final maturity, as is the case with a floating-rate loan or variable-rate certificate of deposit. The degree of sensitivity is measured by the gap, or dollar difference, between assets and liabilities at various repricing periods — for example, overnight, 2 to 30 days, 30 to 90 days, 3 to 6 months, 6 to 12 months, 1 to 2 years, 2 to 3 years, and over 3 years. The greater the gaps, positive or negative, the greater the sensitivity. By studying the volumes of assets and liabilities falling within each category, insights can be gained into a bank's earning dynamics in various rate environments.

In order to manage these gaps, controllable balance-sheet items must be employed. These items are assets and liabilities that can be controlled — that is, items over which a bank has the discretion in terms of price of term — or both — to buy, hold, or sell. Examples are Federal funds, investment securities with fixed maturity, certificates of deposits, and Eurodollar time deposits. Uncontrollable or non-discretionary items are assets and liabilities that are beyond the short-run, immediate control of the banker. Examples are fixed-rate

loans, retail savings deposits, and demand deposits.

The actual management of rate sensitivity involves controlling the size of the asset and liability gaps or degree of mismatching for each period, depending on the outlook for interest rates. The gaps are managed by use of controllable assets or liabilities mismatched against the uncontrollables in each pricing category.

Depending on the interest-rate forecast, several choices exist for structuring assets and liabilities to reach the desired level of overall interest-rate sensitivity. With expectations of higher rates, the sensitivity of the assets would be increased in relation to the liabilities by adding controllable assets in the short periods and controllable liabilities in the longer categories. After this adjustment, the assets in the shorter maturities would exceed the liabilities, and the liabilities would be greater than the assets in the longer maturities. In a falling rate environment, on the other hand, it would be advantageous to be more liability-sensitive. To accomplish this, more controllable liabilities would be added in the shorter maturities and fixed assets of longer terms so that these gaps would be biased to the liability side. They then would be liability-sensitive. The objective is to manage interest-rate sensitivity over the interest-rate cycle by the use of controllable assets and liabilities.

It should be noted that the practical management of interest sensitivity more often than not involves a shifting in the tenor of controllable assets and liabilities. Only in more extreme cases, when interest rates are expected to peak or trough imminently, would new assets, primarily long term in tenor, be added to the balance sheet to allow for quick adjustment.

Further, interest-rate sensitivity can be adjusted just as effectively, without affecting the leverage of the firm, by a program of asset sales. Traditionally, the portfolio has been called upon to bear this burden. Increasingly, however, other types of hitherto uncontrollable assets have been produced and booked in such a form that they can be sold to alter sensitivity. Upstream loan participations, mortgage pass-throughs, and acceptance sales all provide opportunities to alter sensitivity.

Premeditated Asset Sales Programs

Over the past decade, constant inflationary pressures and the chronic undervaluation of bank equity have conspired to cause an industry-wide deterioration of capital ratios. Recently, the Comp-

troller of the Currency, among others, has expressed concern about this trend, putting renewed emphasis on the maintenance of a given level of capital adequacy. Primarily for this reason, commercial banks are actively seeking ways to deliver their risk-taking, value-added services in ways that do not require on-balance-sheet intermediation. Various pass-through and quasi-investment banking activities allow banks to generate assets, package them, and sell them to ultimate investors. This intermediation format will play an increasing role in the business development efforts of commercial banks in the future.

Interest-Rate Futures

A new and potentially powerful instrument for the control and adjustment of bank interest-rate sensitivity has arisen in the markets for financial futures. Particularly within the last year, the financial futures markets in three-month Treasury bills, GNMA's, and long bonds have become quite diversified in their participation and sufficiently robust to offer good hedging possibilities for those institutions that have determined that a particular interest-rate position is counter to their risk preferences. The futures markets allow an adjustment in rate sensitivity when cash markets for marginal assets or purchased liabilities, for one reason or another, are not available. For this reason, the interest-rate futures markets offer significant opportunities to institutions that, because of their size, do not have ready access to purchased liability markets in all maturities at market rates.

In addition to the ready availability and immediacy of the financial futures markets, their use as a sensitivity-adjusting mechanism is enhanced by the fact that they allow effective hedging without the use of the balance sheet, hence without introducing additional leverage. This can be an important advantage when large dollar volumes of risk assets or liabilities require hedging. A severe negative, however, is the presently mandated accounting treatment for hedged future transactions. Present accounting conventions, in many cases, do not allow the financial statement to symmetrically and/or contemporaneously represent the income effects of a hedged asset or liability and the hedging futures contract. This fact, in a cosmetic sense, might severely limit the use of these markets, even though the economic benefits of the hedge may be overwhelming.

Balance-Sheet Management at the Community Bank

With the preceding background discussion of the changing regulatory structure and its implications and then a review of modern funds-management techniques used by large banks, it is appropriate now to relate these factors to the problems and opportunities of smaller community banks.

To a large extent, large banks and smaller banks have many of these problems in common, although of course they differ in degree. However, in recent years even these differences in magnitude have lessened somewhat as smaller banks have achieved greater flexibility in adjusting for interest sensitivity. It appears that there will especially be increasing flexibility on the liability side. Certainly the risk inherent in the current interest-rate environment is experienced by banks of all sizes.

Liability management at the community bank is quite recent in origin, since it received its major impetus from the introduction of the six-month money market certificate in June 1978. Since then these certificates have grown to the point where they currently amount to almost $150 billion and represent approximately 32 per cent of total small-denomination time and savings deposits at commercial banks nationally. This certificate, together with high inflation and rising rates, gave the community banker his first experience of what banking will be like when interest-rate ceilings imposed by Regulation Q are removed. The six-month certificate gave the banker a much-needed means of competing for funds in the rising interest-rate environment, which before would have spelled massive disintermediation.

However, it also had an adverse effect upon banks' interest expense, as depositors shifted funds from interest-rate-insensitive demand and savings accounts to the rate-sensitive certificates. The higher interest expense translated in almost all cases to a reduction in net interest margins. This resulted from the fact that instruments that make up the asset side of the community banks' balance sheet did not increase in rate sensitivity as quickly as the instruments that made up the liability side.

As interest rates continued to rise throughout 1979 and the first part of this year, many bankers attempted to shorten up the maturities of assets and increase the percentage of floating-rate loans in their portfolios. In other words, bankers tried to increase the rate sensitivity of the asset side of their balance sheets. Unfortunately, some

bankers were, to an extent, too successful, because as rates moved sharply lower during the spring of 1980 they found that their liability costs were not as sensitive as the rates received on their floating-rate assets and resulted in pressure on net interest margins in a generally falling rate environment.

In sum, the community banker was exposed to the vagaries of liability management but found that the mix of floating-rate liabilities and assets available to him were not adequate to protect his net-interest margins. Interestingly, despite the wild gyrations in interest rates and the attendant pressure on net margins, remarkably few commercial banks were fatally affected. Indeed, the adaptability of the community bank to this unexpected disarray in financial markets during the last year demonstrates the fundamental health of the nation's banking system and suggests a high survival rate for community banks in the future. To continue to be among the survivors, however, bankers must learn how to adapt to volatile and unpredictable financial markets. They must begin to manage their assets and liabilities in an environment of heightened interest-rate risk.

The Inherent Interest-Rate Sensitivity. Every community bank balance sheet contains within it an inherent interest-rate sensitivity that is fundamentally determined by factors outside the bank's immediate control. Unlike those of its money center counterpart, the community bank's assets and liabilities are heavily influenced by the demand for and supply of funds in its immediate market area. Consequently it does not enjoy the flexibility of adjusting the sensitivity of its liabilities or its assets as easily or as rapidly as the money center bank.

For example, maturities of money market certificates are set by regulation, while maturities of other certificates of deposit are largely determined by the depositors' needs or preferences. In most cases, the largest group of customers taking advantage of large CD's or RP's are ,corporations or municipalities looking for a vehicle in which to invest working capital temporarily. They have very specific parameters as to desired maturity, and they come to the community banker wanting to know what he is willing to pay for that specific maturity.

Rates paid on liabilities also are largely beyond the determination of the community bank. Here, too, regulations play an important role in that they specify the rates paid on 6-month money market certificates as well as the rate payable on the 2%-year small saver certificates. As a result the liability manager at the community bank is more

a funds taker than a funds manager. His market, as well as regulations, continue to influence the term structure of the liability side of the balance sheet. He simply cannot always adjust the term of his liabilities rapidly enough to optimize his net interest margins under either a rising or falling rate environment.

Alternatively, the asset side of the balance sheet of the community bank reflects the customer's desire for relatively long-term, fixed-rate credit facilities, such as home mortgage loans and consumer installment loans. As long as the yield curve is upward sloping, banks can generally fund and profit by extending such credit, but with a downward sloping curve such loans begin to exert downward pressure on net interest margins. The increasing appearance of this negatively shaped curve spells difficulty for all banks.

Another consideration that influences the asset side of the community bank is the need to maintain a liquidity reserve to meet seasonal and cyclical net cash outflows. The money center bank can purchase funds for such purposes, but the community bank must set aside short-term marketable assets that can be readily liquidated to meet these outflows. Consequently the bank must always keep some percentage of its assets in a rate-sensitive posture, even though it may not optimize the net interest margin.

The effects of the local market will affect each community bank differently. The local demand for and supply of funds may bias the gap of interest-rate sensitivity positively for a bank in one community and negatively for a bank in another. These biases, or influences, must be determined before the banker attempts to adjust his gap to maximize his net interest margin. In a residential, suburban-type community, the bank's balance sheet most likely will be dominated by long-term, fixed-rate mortgages and six-month money market certificates. This will give it a negative gap and an inherent exposure to escalating interest rates. In an industrial area or a large farming community, the opposite may be true because the loan portfolio's maturity structure is much shorter.

It is the job of the asset-liability manager at the community bank to determine these biases caused by the uncontrollable items on his balance sheet and neutralize them with items that are controllable. The key to this is the ability to adjust the frequency with which assets and liabilities are repriced in order to achieve a desired gap. While this would seem a difficult task, new tools not previously feasible and proposed regulatory changes should make the job of asset-liability

management at the community bank much more effective.

Instruments and Constraints. Along with the introduction of the six-month money market certificate came an increased level of awareness by depositors of interest-rate levels. As a result, community banks found themselves competing more vigorously than ever for funds, as rate-sensitive depositors shopped for the highest return available. Under pressure to maintain interest-rate margins in this increasingly competitive climate, community bankers have turned to liability instruments formerly used almost exclusively by money center banks and the larger regional banks.

Such instruments include large denomination certificates of deposit, repurchase agreements, Fed funds purchased, and the Treasury Tax and Loan Note (TT&L). The first two have probably been the most effective in maintaining and attracting deposits while affording the bank some alternative as to maturity. Large denomination CD's ($100,000 and over) allow the community banker the opportunity to offer its larger depositors a rate that is attractive and also fit the maturity parameters of both depositors and banker. RP's, while having this same attractiveness due to flexible maturities, add the extra security desired by some investors and at the same time allow Fed members to forego the added expense of reserve requirements on CD's.

Both of these instruments, in conjunction with the TT&L note option, have come into increased use by community bankers as they sought to diversify their liability structure in order to decrease their exposure to interest rate fluctuations while competing for funds. For example, in a declining rate environment, the community bank will want to increase the rate sensitivity of its cost, or increase its negative gap, by shortening the maturity structure of its liabilities. This will be effective only to the extent that the bank can bring depositors into shorter maturities by making the rates on these maturities the most attractive.

As previously noted, however, the greatest barrier to this type of liability management in the community bank is the fact that this bank tends to be a funds taker, having to accept the predetermined maturity demands of its larger depositors due to heavy competition in a very limited funds market. In addition to this constraint, the extensive use of RP's in this role depends on the existence of a sizeable unpledged portfolio of eligible collateral. Finally, the TT&L note as a source of funds is limited by the uncontrollability of its maturity structure.

Although it does supply another source of funds at a reasonably cheap level, its timing and duration are quite unpredictable.

One source of funds not always considered in the framework of liability management, and which should be mentioned, is the issuance of capital or capital-type instruments. In an environment like the one that has dominated the last couple of years, issuance of such obligations, especially long-term, fixed-rate debt, would be an ideal hedge against continually rising rates. However, issuance of equity has some major drawbacks besides the obvious constraint of dilution of ownership. By far the largest barrier to capital as a source of funds is the lack of willing investors. Not only does the community bank face a limited market for its stock, the thought of a seven-year investment at a fixed rate in a small community bank also does not appeal to multitudes of investors in today's volatile rate environment. In addition, the cost of issuing through private placement, as well as the potential cost involved in bad timing, may be prohibitive.

In view of all these limitations, one may ask whether it is at all feasible for the community bank to practice effective liability management.

It is feasible but unfortunately, for now, only on a limited basis. A naive form of liability management would be simply to refuse to pay the allowable rate on six-month money market certificates. While this could have some serious ramifications in respect to growth, it could be the difference between a positive and negative interest-rate margin. A more positive and psychologically acceptable means of liability management would be to use Fed funds purchased and large RP's with dealers in order to make a more significant impact on the liability structure. This would be done in an environment of steadily dropping rates, where the bank will want to shorten its liability structure as much as possible. To the extent the bank is confident that rates will continue to drop, it should reduce its exposure in longer-term liabilities and increase its Fed funds position. Where rates appear to be rising for any extended period, Fed funds of up to six months in maturity can be used to extend the term structure and further reduce rate sensitivity. Any use of Fed funds purchased in a community bank must, of course, be done within the limitations of the bank's liquidity and capital structure.

If a bank has a large government investment portfolio with very little customer demand for RP's, it can use its available collateral to secure additional funds from security dealers with maturities as long

as six months. Unlike most RP's done with customers, here the bank usually will have more latitude as to maturity. This method of liability management, however, does have some limitations, as it requires ample collateral and usually requires a minimum denomination of $1 million.

Unfortunately, Fed funds purchased and RP's are most effective in the community bank as a liability management tool in a declining rate environment. When rates are rising and the banker wants to extend his liability term structure significantly, he really has few instruments that will lock his cost in longer than six months. The one instrument that held some promise in this area, the 2%-year small saver certificate, has met with limited customer acceptance, and its cost has proved to be extremely hard to cover on a profitable basis. This fact underscores the need for a flexible-rate, variable-maturity instrument by which the community bank can reduce its rate exposure in a long-run rising-rate environment.

Implications for the Asset Structure. Although the preceding scenario does suggest some tools available for liability management at the community bank, the fact remains that for the time being the community banker is extremely limited in the extent to which he can effectively alter the rate sensitivity of his liability structure. Thus, he has had to turn to the asset side of his balance sheet to try to neutralize his growing interest-rate exposure.

In the mortgage portfolio several different methods are being used to increase the frequency at which the portfolio is repriced. Three- to five-year balloon mortgages have become very commonplace in reducing the average life of the mortgage portfolio. In many cases these carry a guaranteed renewal clause, which makes this an attractive instrument for the second- or third-time owner who has built up substantial equity. For first-time buyers the variable-rate mortgage has met with some limited use. A third method that surpasses both of these instruments in its immediate and dramatic effect on the bank's asset structure is the sale of mortgages to Federal agencies or mortgage bankers. Although the required standardization of processing such a loan adds to its cost, it allows the bank to convert a completely rate-insensitive asset into cash. Just as important, it lets the bank continue to offer conventional mortgages to its customers, which should help maintain the bank's vital deposit base.

This same strategy can be used just as effectively, and probably more frequently, in the commercial and industrial loan portfolio. If

the community banker has a good network of willing correspondents, he can sell or purchase participations or downstreams to minimize a given rate exposure. As his larger money center counterparts also look to manage their rate sensitivity., the community banker, too, will be looking for a market from which to buy or sell loans. On many occasions he will find that his needs and the money center bank's needs complement one another. In a high-rate environment, where loan demand is sluggish but the community banker anticipates lower rates, he will want to purchase blocks of fixed-rate, longer-term loans to reduce an exposure to dropping rates. In a low-rate environment, the opposite is true, and he will want to sell loans in order to come back to cash.

While the community bank's loan portfolio has become more flexible, it is still constrained to a large degree. Consumer installment loans continue to cause longer-term rate insensitivity and in fact have been under pressure for longer maturities, as in the four- and five-year auto loan. Like the liability structure, the loan portfolio will continue to reflect customer needs and preferences.

Therefore, to fine tune his rate sensitivity with better precision and compensate for the uncontrollable segments of his balance sheet, the community banker must turn to his investment portfolio. This remains the fastest and most useful means in his balance sheet for adjusting his gap. As with the other segments of his balance sheet, never before has the community banker had so many instruments at his disposal. With each new type of liability introduced by the money center banks has come an additional tool available on the asset side with which the community bank can manage its interest margins.

In a situation where he may be bidding for the funds of a large depositor, the community banker should survey current money market rates in order to guarantee an appropriate spread. Then, on the basis of his current gap, the maturity of the liability, and his outlook for the future of interest rates, he should invest in instruments that will reduce his rate exposure and maintain, if not increase, his interest rate margins. These normally would include domestic CD's, BA's, Euro CD's or TD's, RP's, commercial paper, T-Bills, or agency discount notes. In situations where he wants to increase the positive bias of his gap, he can invest in government, agency, municipal, or corporate notes, or bonds of longer maturities.

The use of the investment portfolio as a tool in rate sensitivity management has two constraints for the community banker. The first

is that in the case of the above-mentioned money market instruments, the minimum denomination often is $500,000 to $1,000,000. The second is that any attempt to adjust the portfolio's maturity structure that necessitates selling securities is constrained by any market depreciation in the portfolio. Although these constraints do detract from perfect controllability, the investment portfolio still offers the widest range of rates and maturities for asset management.

Financial Futures. Another management tool — and one that has received abundant publicity in recent years — is the financial futures market. It is being used in a number of capacities at the money center banks but has yet to see extensive use at community banks. When interest rate futures are used effectively, however, they offer the ideal hedge against interest-rate fluctuations that move in opposition to a bank's gap. Where it may be difficult for the community bank to change its exposure to a specific move in interest rates on a timely basis, financial futures can increase or decrease this exposure immediately.

The most crucial point for the community banker as he gets involved with financial futures is to make certain that he is in fact hedging and not inadvertently increasing his exposure. For this reason the most appropriate application of the futures market for a community bank is within the realm of rate sensitivity. In trying to apply futures to overall portfolio appreciation or depreciation, the result may be that cash transactions in the futures market are offset by paper transactions in the portfolio. In other words, gains and losses in the futures market are realized daily according to the futures position, whereas a portfolio does not realize a gain or loss until a sale is made.

An understanding of the impact of a futures position on a bank's earnings is crucial. Thus it is better to apply the futures market in a rate sensitivity format where hedged items are more identifiable and corresponding futures contracts can be bought or sold. The concern of the bank in using the futures market should be to eliminate risk and create performance that is in line with the bank's investment policy and overall objectives.

More specifically, the community banker would be quick to point to the six-month money market certificate as the largest contributor to his exposure to an increase in rates. This then would be the most logical and practical item to hedge. An appropriate hedge for a negative gap in a rising rate environment would be to sell short the 90-day Treasury bill future contract, because it tends to move in

tandem with the Treasury bill cash market that is used to price the money market certificates. So while the bank's costs are increasing due to higher rates on its CD's, it is realizing a gain on its futures position as its price is dropping. When the banker feels rates will go no higher, he will buy back the contract at some lower price, reversing his position and realizing a profit.

If the opposite had been true, the banker would have gone long in the futures market to hedge a positive gap and the risk of lower rates. It is readily apparent that the wrong combination of a long or short position can result in speculating instead of hedging. In addition, different futures instruments and maturities will be appropriate for hedging different balance-sheet items.

For these reasons every precaution should be taken when considering the futures market. The first step is the development of an investment policy statement that specifically addresses futures. Second, the bank should consult with the appropriate banking authorities to insure that it will conform to sound banking and management practices. This is especially important for the accounting elements of futures. Third, the selection of a broker or other source of professional advice is critical. The relationship between the broker and investor should be fully understood at the outset. It is important, for example, that a broker be aware that a client is not interested in trading in the futures market and that the broker be knowledgeable about the bank's overall situation and objectives.

Relatively few community banks are involved with futures at this point, but their number is increasing steadily. As conditions for banking become more competitive, the need to be defensive and minimize risk will become greater. Certainly there are money making opportunities for banks in interest-rate futures, but the most significant feature of the futures market is the hedging mechanism to provide stability in income, liquidity, and overall cash flow.

Conclusion

Over time, the continuing fundamental challenge of banking remains the profitable employment of the sources of funds at an acceptable level of risk. The methods devised to solve this problem have evolved in response to the changing economic and financial climate. Coordinated control of assets and liabilities that permits management of the entire balance sheet as a unit through the use of interest-rate

sensitivity is the latest innovation in funds management.

Besides the regulatory changes, banks will continue for some time to be operating in an economic environment that will cause large fluctuations in interest rates. Under these conditions, flexibility will be more important to the banker than ever.

An axiom worth keeping in mind is that banks of all sizes can profit by specializing in services that will accommodate their basic marketing areas. By doing this, and by remaining flexible and adaptable, bank managers can refute some of the gloomy predictions about the outlook for commercial banking in the years ahead.

Commentary

Sanford Rose

It seems to me that Don Miller's paper contains a serious inconsistency. On the one hand, he offers advice to large and small banks on how to manage their gaps. On the other hand, he seems to agree that rate volatility and high inflation are permanent features of the economic landscape.

When a bank consciously gaps—that is, tries to create a surplus of rate-sensitive assets or liabilities—it is betting a portion of its equity on a certain rate scenario. If the bank guesses wrong, it will impair its capital position.

Interest rates are determined by both systematic and stochastic forces. In recent years, the stochastic or random element of interest-rate movement has become more prominent, in part because of the Fed's decision to stop smoothing interest rate fluctuations within certain parameters. As a result, it appears that interest rates bear many of the characteristics of a random walk. In any given three- or six-month period, they are just as likely to rise as to fall.

Hence banks that gap, however intelligently, are apt to experience sharp fluctuations in net interest margins. If we agree that continued high inflation will tend to erode the ratio of equity to assets, a gapping bank is running a very large risk of impairing a progressively thinner capital cushion. I do not regard this as sound banking practice. In fact, I think it is a recipe for disaster.

Even if a bank is lucky enough to guess right on interest rates most of the time, its fortunes may not improve. Earnings may rise, but the bank's stock price may not reflect this earnings performance. The marketplace, acutely aware of the potential impact of interest-rate volatility on bank earnings, won't pay for superior performance generated by fortuitous success in gapping. It will view such profits

as highly risky and thus capitalize them at much loftier rates than in the past. While bank managers who profess to be endowed with a superior feel for interest rates will end up suffused with a glow of accomplishment, the shareholders for whom these managers work may not feel so comfortable.

Now, Don may argue that if banks don't gap, prudently but consciously, they won't make as much money as they did in the past. I agree that if banks cannot juggle the maturities of assets and liabilities to harmonize with projected changes in interest rates, the rate of growth of bank earnings will be lower than it once was. Yet again we must ask what will be the effect on shareholder welfare. The marketplace currently perceives that bank earnings are threatened (1) by a rising term structure of interest rates and (2) by the increased variance of that term structure. (The two developments are of course interconnected.)

If banks somehow manage to balance themselves in a maturity sense, earnings growth may be lower than in the past, but the quality of earnings will have been enhanced through the reduction of funding risk. Will not the obverse of what I just said then occur? Will not the marketplace respond by discounting earnings streams at lower rates? I think it will. Thus, price-earnings multiples may be higher than they now are, though perhaps lower than they were in the pre-inflationary past.

Now, of course, it may not be possible for banks to balance themselves. Many believe that small banks will have more trouble than large banks. I'm not so sure. I think that small banks may be more successful in shortening the maturity of assets to match the inexorable shortening of liability maturities. In the future, the individual borrower may accept the interest-rate risk more readily than the business borrower. Looking at the Fed terms-of-lending study, I was shocked to learn how few new C&I loans were made at floating rates during the 1977-79 period — something in the neighborhood of 50-60 per cent of total C&I extensions. What's more, at the big 48 banks, the proportion of C&I loans made at floating rates showed absolutely no tendency to rise during 1977-79, a period when liability maturities were being greatly shortened.

Business borrowers want fixed-rate credit, and they apparently have the bargaining power to enforce that demand. Some people argue as follows: Well, if the borrower wants long-term credit and the risks of maturity transformation — converting liquid deposits into

liquid assets — have become greater for the banks, then the banks should be able to raise loan prices sufficiently to cover the increased exposure.

Unfortunately, that argument doesn't wash because the marketplace contains enough intermediaries that are either willing or able to shoulder the maturity-transformation risk on existing terms. These include some domestic banks that are willing to gap fairly dangerously and those foreign banks that apparently regard their U.S. operations as loss leaders and can continue to do so as long as they have such high leverage and modest ROA targets (e.g., French and Japanese banks) or as long as they have a license to steal in their home market (e.g., the British banks, which pay interest on only about half as many of their deposits as do large American institutions).

It also includes the pension funds and insurance companies that can afford to make fixed-rate loans because their liabilities are also long term and fixed in nature. I sometimes think that bankers should devote a great deal of their time to lobbying for the compulsory indexing of pension and death benefits. Were such lobbying successful, both the pension funds and the insurance companies would be forced to revise lending practices, which they are now doing, but very slowly and with no great avidity. Clearly if the pension funds and insurance companies shortened asset maturities, it would be much easier for banks to do likewise and thus be in a better position to achieve rate-sensitivity balance.

So my view, which appears somewhat different from Don Miller's, is that banks should strive for balance, but that this striving cannot always be successful, given what I believe will be greater rigidity on the asset side than on the liability side of the balance sheet.

What can be done about this problem? Bankers could always try to introduce a little more rigidity on the liability side, to slow down the trend toward even shorter liabilities. Bankers have not, I believe, shown much imagination in this area. Why not create a negotiable retail CD? With such an instrument, the saver could transfer ownership by selling the paper through a brokerage house. Since the obligations of banks are safe (provided the FDIC insurance moves with the certificate) and homogeneous, sale in an after market that is certain to emerge will not be difficult.

The saver would get three options: (1) hold the certificate to maturity, (2) sell at a profit if rates fall, or **(3)** sell at a loss — but perhaps much less of a loss than under the current system of prema-

ture withdrawal penalties—if rates rise and the value of the certificate drops. The S&L industry moved to certificate liabilities some years ago, and had these instruments been negotiable, the industry would not have faced the problem of massive shifts from six-month money in 1979 and 1980.

With a negotiable long-term certificate, nonredeemable except at maturity, the saver's desire for liquidity and reasonably high yield could be satisfied. The bank, in turn, would have bona fide long-term money, insulated from transfer to money market mutual funds. No matter how many times the certificate was traded, it would remain a liability of the bank of issue.

Of course, if interest rates fell, banks would be in trouble. But this eventuality could be protected against by introducing a call feature similar to that incorporated in bonds. If rates dropped dramatically, banks could call in high-rate, long-term certificates, paying the saver a premium that could be tailored to match the prepayment penalties banks would or should be charging borrowers desirous of refinancing loans in the low-rate environment. I understand that Chase Manhattan is currently toying with the idea of a negotiable retail CD. I hope something concrete will emerge. It seems a particularly desirable instrument for small banks.

If banks cannot lengthen liabilities ***de jure,*** they can still do so ***de*** facto by the use of futures. In effect a liability hedge is a device that changes the yeild maturity of the liability to more closely match that of the asset it is financing. As Don Miller has mentioned, however, there is the mark-to-market accounting problem. If a bank shorts a strip of 90-day bills to hedge an MMC and rates fall temporarily, the bank has a loss that must be recorded immediately. If interest rates turn around, the bank may record a profit on its hedge sufficient to offset the increased cost of rolling over its MMC. But that benefit occurs subsequent to the highly visible loss.

A way around the mark-to-market problem is to do what agricultural bankers have been doing for years—ask the borrower to execute his own hedge. Agricultural bankers have used this device largely to protect themselves from credit risk. By having a feedlot operator sell a futures contract for live cattle, the bank locks in the value of its collateral. This concept can be extended to protect all banks from interest-rate risk without accounting problems.

Suppose the borrower wants a fixed-rate loan for two years. The bank's funding source is the MMC. The bank makes the loan at 200

basis points over the existing T-bill futures rate. The bank asks the customer to short a strip of 90-day bills for six-month delivery, extending over the two-year period. If rates rise, the borrower has a profit, but, by prior agreement with the bank, this profit is forwarded by the futures commission merchant to the bank. Thus, a rise in the cost of bank liabilities is offset by a payment received from the borrower. If rates fall, the borrower has a loss and must make a payment to the commission merchant. But the bank's cost of funds has fallen and so it credits the loan account of the borrower by an amount equal to the borrower's payment to the merchant.

The borrower gets his fixed-rate loan and the bank locks in its spread (or at least it locks it in if the funding source is highly correlated with the movement of bill futures, which is obviously true in the case of the MMC). Accounting symmetry is established. The borrower has a margin account with the merchant and a loan account with the bank. Then the margin account shows a debit, the loan account shows a credit, and vice versa.

By shifting the hedge from its own books to those of the borrower, the bank has transformed a margin adjustment (a payment it would have to make if interest rates drop) into an accrued interest adjustment (a credit to the borrower's loan account). Since banks are allowed to defer accrued interest, the accountants are satisfied.

A device like this—it is called the synthetic fixed-rate loan—can enable banks to preserve spreads while still accommodating the borrower's demand for reasonably predictable interest costs. If banks can lock in spreads on fixed-rate credit, they are really shortening the yield maturity of that credit. If they can combine this vehicle with a means, like the negotiable retail CD, of lengthening liabilities, they can go a long way toward balancing themselves. And maturity balance, or at least a situation in which the positive or negative gap is much less than 5 per cent of earning assets, is the key to preserving solvency and profitability for both large and small banks in the turbulent years ahead.

My time has about expired, but I'd like to leave you with a thought that may elicit some questions. I think Don Miller ought to have laid much more emphasis on asset sales—and I'm not just talking about the SBA, FmHA variety. Bank profits have historically come from (1) credit intermediation, (2) funding, and **(3)** regulation. The regulation profit is disappearing, and the funding profit is threatened in the short run and may be nonexistent in the long run, especially if current

trends in saving flows that have a flattening effect on the yield curve persist. Banks should therefore be concentrating on enlarging the profit from credit intermediation. Yet it is my contention that a nostalgic preoccupation with preserving funds profits is tending to' impede management's ability to enlarge the profit from credit intermediation, which can be achieved only through a vastly expanded program of loan brokerage.

Now, if that remark isn't sufficiently cryptic, let me conclude with another. Don Miller has identified Merrill Lynch as a strong competitor. In my view, the Merrill Lynches of this world can become the best friends that bankers have, provided bankers understand how to use them.

10
Using New Fund Sources: A Banker's Perspective

*Marlin **D. Jackson***

My perspective of the job assigned to me as a country banker from Paragould, Arkansas, is to react to the excellent presentations we have heard during this symposium.

Peter Barry and others from academia have clearly presented the challenge that lies before us. While each new decade carries with it renewal of hope eternal, the environmental circumstances and the regulators, among others, present formidable challenges for agricultural bankers in the decade ahead.

The message I perceive disseminating from Governor Partee is that the Federal Reserve offers no quick cure for banks in general and for agricultural community banks in particular. I think we could well afford to give close attention to Governor Partee's admonition that banks pay close attention to both asset and liability management as they move into full-fledged deregulation. This is especially true when taking into account the great variety of new competitors agricultural banks have.

John Lee, of the United States Department of Agriculture, reminds us that there is a role for government in providing funds and making loans to farmers. The message I heard presented was that the role should be somewhat smaller than it is. 1 am convinced that there are significant opportunities for community banks desiring to serve farmers and agribusiness people in the future: to utilize the programs of the United States Department of Agriculture as well as other government-sponsored programs in obtaining new sources of loanable funds.

Recent laws providing FmHA-guaranteed disaster loans will permit farmers to deal with their banks and take advantage of interest subsidies when they are faced with catastrophic disasters brought on

by natural and economic phenomena.

I am distressed that the money center banks continue to show little inclination toward rethinking and reviewing their role in financing agriculture. It appears to me that the money center banks shall continue to circumvent the historic correspondent relationship and compete directly through their loan production offices and other means for good loans in the breadbasket of America. I am sure that many money center banks will continue to provide sources of lendable funds circuitously through the purchase of participations and non-agricultural loans, through the sale of Federal funds and repurchase agreements, and by other mechanisms.

I am distressed at the lack of farsightedness on the part of money center banks. By expanding their branching network nationwide, by establishing loan offices and other devises that narrowly circumvent the present law, they are perhaps developing animosities on the part of country banks that will impede if not absolutely prevent orderly development of banking laws that would permit geographic expansion and the removal of other barriers that ought to be removed. Unfortunately, that seems to be the way the money center bank die is cast.

Country banks would be well advised to consider utilizing money center banks in the above roles as an additional source of loanable funds. I am encouraged at the word received from the regional correspondent banks, statements that give cause to believe regional banks are dedicated to preserving the historic correspondent bank relationship and to serving agriculture via this proven mechanism.

I am encouraged by the regional correspondents' commitment to continue to participate in loans, continue to allocate assets and — more importantly, perhaps — personnel who can understand and identify the needs of agricultural banks. It was appropriate that banks in the rural areas were divided into rural banks and agricultural banks. But I do take exception to the suggestion, implicit in many of their remarks, that agriculture bankers are a bunch of yo-yos. The fact is that agriculture banks are very well managed.

It appears to me that agricultural banks need to do a better job of loan documentation, loan preparation, and loan explanation, and a much better job of communicating with regional banks. Certainly, the decade ahead calls for the establishement and development of profitable relationships with our regional correspondent banks. These relationships depend on willingness on the part of the regional corre-

spondent banks to devote assets and personnel to financing agriculture, and also depend to a large extent upon the agriculture banks taking the initiative to make changes, to be innovative, and to exploit the opportunities that exist by establishing these needed relationships.

The first banking conference I attended was a discussion on Alternative Sources of Funds for Funding Agriculture. It has been the subject of about every other banking conference that I have attended, disguised in other ways and called other things. A great deal has been said in the past twenty-odd years but very very little, frankly, has been done. And to me, the most fascinating possibility of a new source of funds is that so ably presented by Raymond Doll. I think it altogether appropriate that the American Bankers Association, the regional correspondent banks, and agricultural banks join together with the Federal Reserve and other agencies of the government in early formation and early implementation of Ray Doll's mechanism for the discounting of agricultural loans.

Savings and loans enjoy a nationwide market outlet for long-term real estate loans. Naturally, such loans must meet accepted documentation and rate structure criteria. Likewise, national corporations enjoy a similar market in commercial paper. The Federal credit unions enjoy a nationwide pool of capital.

The greatest competitor for good loans and assets of agricultural banks, the Farm Credit System, is fast approaching a monopolistic condition because of its ability to market, on a nationwide basis, bonds backed by agricultural loans. Because of this, there is a strong sense of urgency in the early implementation of Ray Doll's special mechanism for marketing bonds backed by agricultural paper, bonds that bear the guarantee of the Federal Deposit Insurance Corporation or some other appropriate agency.

In this symposium, a great deal of attention has been directed toward the Farm Credit System. You have heard the suggestions of officials of the system that the misunderstandings of facts, misunderstanding of intent, and misunderstanding of mission. A careful reading of the paper indicates that it is filled with factual errors. These errors indicate a gross misunderstanding and knowledge of commercial banks, at best, and perhaps of the Farm Credit System at worst.

For instance, the Farm Credit System is in no way like national banks. National banks pay taxes. Dividends paid on national bank stock is subject to an additional taxation. The owners of national bank

stock pay taxes. The structure is different. While there is commonality of mission among national banks serving predominantly agricultural regions, the missions of banks are much broader than those of the Farm Credit System.

The contention that the system is not a deposit-gathering entity ignores the fact that any citizen who is not an employee of the system may purchase bonds in denominations as small as $1,000. Further, these bonds are not subject to Regulation Q and frequently bear interest far in excess of those that can legally—or profitably—be paid by agricultural banks.

Officials of the system discuss at length their concern over monetary constraint in the coordination of the system. However, the fact is that the system is not subject to those responsible for monetary policy in this country. The Farm Credit System marketed in excess of $93 billion in bonds last year, second only to those marketed by the United States government itself.

The Farm Credit System has consistently engaged in arbitrarily administering the laws under which it operates. A classic example of these abuses is the manner in which discount privileges have been extended to national banks, farm loan subsidiaries, and other entities eligible for discount. This fact is illustrated in that approximately 155 banks or bank-owned farm loan subsidiaries presently utilize the discount in times of extremely tight money supply. There is little doubt in my mind that the system has a perhaps nonrecognized drive and desire to become the dominant supplier of general credit on the farm scene.

Notwithstanding these problems with the Farm Credit System, there is substantial potential for agricultural banks to develop meaningful relationships under the provisions of the 1980 amendments.

The streamlining of participations offers unique opportunities for banks to join in concert with Federal Land Banks and Production Credit Associations to provide urgently needed capital to finance agriculture and agricultural business. The discounting privilege under the OFI carries with it a strong congressional mandate and a strong commitment from the officials of the Farm Credit System to fairly and equitably administer the discounting privileges of the Federal Intermediate Credit Banks.

In conclusion: While the challenges faced by agricultural banks are formidable, the opportunities have never been greater.

A variety of future sources of loanable funds will be available if

agricultural banks have the courage and possess the initiative to access these funds. Among these is the broadening of the relationships between agricultural banks and money center banks. Another important ongoing source of loanable funds is the continued improvement of relationships between agricultural banks and regional correspondent banks. These have been the mainstay in financing agriculture in past decades and appear to be our best hope in the immediate future.

The creation of a mechanism of national marketing of bonds backed by agricultural loans is a matter of extreme urgency. I urge those who are interested in financing agriculture, and who are interested in commercial banking, to work unceasingly towards the implementation of Ray Doll's suggestion that an entity be created so that agricultural loans may be marketed vis-a-vis the bond market, thus enabling us to competitively serve agriculture and agribusiness in the decades ahead.

Symposium Participants

Stephen Able
Federal Reserve Bank of Kansas City

Richard K. Abrams
Federal Reserve Bank of Kansas City

Duane Acker
President
Kansas State University
Manhattan, Kansas 66506

Ann Laing Adair
Federal Reserve Bank of Kansas City

Edmund L. Anderson
Vice President and Ag Rep
First National Bank of the Black Hills
Rapid City, South Dakota 57709

Walter J. Armbruster
Assoc. Managing Director
Farm Foundation
Oak Brook. Illinois 60521

Timothy G. Baker
Assistant Professor
Purdue University
W. Lafayette, Indiana 47907

John W. Ballantine
Vice President
The First National Bank of Chicago
Chicago, Illinois 60670

Dean Bark
Vice President
The Jackson State Bank
Jackson, Wyoming 83001

Peter J. Barry
Professor
Department of Ag Economics
University of Illinois
Urbana, Illinois 61801

Jack H. Barton
President
Federal Intermediate Credit Bank of Texas
Houston. Texas 77001

A. Edwin Baur
Senior Vice President
First National Bank and Trust Co.
Kalamazoo, Michigan 49007

Dan Bechter
Federal Reserve Bank of Kansas City

James B. Benda
Federal Administrative Counsel
Independent Bankers Assn.
Washington, D.C. 20036

Gary L. Benjamin
Assistant Vice President
Federal Reserve Bank of Chicago
Chicago, Illinois 60690

J. Wayland Bennett
Associate Dean
College of Agricultural Sciences
Texas Tech University
Lubbock. Texas 79409

W. C. Bennett
EVP, CEO, and Director
Arthur State Bank
Union, South Carolina 29379

Wilbur T. Billington
Federal Reserve Bank of Kansas City

James Birkbeck
President
The Denison State Bank
Holton, Kansas 66436

Steve Blackburn
Senior Vice President
United Missouri Bank of Kansas City
Kansas City, Missouri 64141

Richard E. Bonewitz
Vice President
The Indiana National Bank
Indianapolis, Indiana 46266

Darwin Boyd
Hamilton Bank
Lancaster, Pennsylvania 17603

Peter J. Broccolo
Commercial Banking Officer
The First National Bank of Chicago
Chicago, Illinois 60670

H. Allan Brock
Deputy Administrator
Farm and Family Programs
USDA, Farmers Home
Administration
Washington, D.C. 20250

E. J. Brown
Division Manager
Equitable of U.S.
Des Moines, Iowa 50307

Marwin Brown
Executive Vice President
National Bank of South Dakota
Sioux Falls, South Dakota 57117

Warner L. Bruner, Jr.
Senior Vice President
Federal Land Bank of New Orleans
New Orleans, Louisiana 70150

J. A. Cacy
Federal Reserve Bank of Kansas City

W. G. Candland
President
Tri-State Bank and Trust
Montpelier, Idaho 83254

R. E. Caudel
Senior Vice President
Bank of North Dakota
Bismarck, North Dakota 58501

Sada L. Clarke
Economist
Federal Reserve Bank of Richmond
Richmond, Virginia 23219

Warren Clark
Federal Intermediate Credit Bank of
St. Louis
St. Louis, Missouri 63166

Robert D. Clawson
Executive Vice President
The State Bank
Fort Dodge, Iowa 50501

Alton B. Cook
President
Federal Intermediate Credit Bank of Wichita
Wichita, Kansas 67202

John P. Danforth
Senior Vice President and Director of Research
Federal Reserve Bank of Minneapolis
Minneapolis, Minnesota 55480

Jon Davis
Federal Reserve Bank of Kansas City
Oklahoma City Branch

Thomas E. Davis
Director of Research
Federal Reserve Bank of Kansas City

Derl I. Derr
Director-Agricultural Bankers Div.
American Bankers Association
Washington, D.C. 20036

Harry Deupree
President
Allied Oklahoma Bank
Oklahoma City, Oklahoma 73147

Max Dickerson
Senior Vice President
Commercial National Bank
Kansas City, Kansas 66101

Raymond J. Doll
Consultant
5231 Mohawk
Shawnee Mission, Kansas 66205

Mark Drabenstott
Federal Reserve Bank of Kansas City
Kansas City, Missouri 64198

Marvin Duncan
Federal Reserve Bank of Kansas City

James R. Eatherly
President
First National Bank
Tonkawa, Oklahoma 74653

Richard W. Eggers
Asst. Vice President-Research
The Federal Land Bank of St. Louis
St. Louis, Missouri 63166

Steve Erwin
Vice President
Northwestern National Bank
Omaha, Nebraska 68107

Stanley Evans
President
Northwestern National Bank
Sioux City, Iowa 51107

Michael E. Fitch
Wells Fargo Bank
San Francisco, California 94111

Eugene B. Foncannon
Senior Vice President
First National Bank
Kansas City, Missouri 64183

Stan Forbes
Vice President and Director
Agricultural Services
Central Fidelity Bank
Lynchburg, Virginia 24504

A. Earl Fort
Senior Vice President
Grant County State Bank
Ulysses, Kansas 67880

Karen Freiberg
Agribusiness Editor
Kansas City Star
Kansas City, Missouri 64108

Stephen Gabriel
U.S. Department of Agriculture
Washington, D.C. 20250

David Garino
Reporter
Wall Street Journal
St. Louis, Missouri 63102

E. F. Goble
Executive Vice President
The Beatrice National Bank and Trust Co.
Beatrice, Nebraska 68310

Paul von Gontard
Director
The Jackson State Bank
Jackson, Wyoming 83001

Darrell Goss
Financial Planning Manager
The Federal Land Bank of Louisville
Louisville, Kentucky 40232

Brynolf Grahn
Director-Budget and Finance
National Farmers Organization
Corning, Iowa 50841

E. B. Graves
Vice President, Planning and Economics
Agrico Chemical Co.
P.O. Box 3166
Tulsa, Oklahoma 74101

Darrell D. Green
President
Financial Service Co.
Omaha, Nebraska 68102

Roger Guffey
President
Federal Reserve Bank of Kansas City

Bill Gunter
United Telecommunications, Inc.
Westwood, Kansas 66205

Gene Hagen
President
Security National Bank
Sioux City, Iowa 51102

Oliver A. Hansen
President
Liberty Trust and Savings Bank
Durant. Iowa

John E. Harker
President and Chairman
First National Bank Burlington
Burlington, Colorado 80807

Duane Harris
Department of Economics
Iowa State University
Ames, Iowa 50011

H. K. Harris
President
First National Bank of Greybull
Greybull, Wyoming 82426

Ed Harshbarger
Research Manager
Farmbank Services
Denver, Colorado 80239

Larry D. Hauschen
Director of Research
Federal Land Bank of St. Paul
St. Paul, Minnesota 55101

James C. Heiser
Senior Vice President
Federal Intermediate Credit Bank
Omaha, Nebraska 68102

Symposium Participants

Bill Henry
Vice President and Director
First National Bank of Omaha
Omaha, Nebraska 68102

William Herr
Professor
Southern Illinois University
Carbondale, Illinois 62901

Stanley A. Herren
Vice President
Delta National Bank
Yazoo City, Mississippi 39194

Bruce H. Herz
Editor
AgriFinance Magazine
Skokie, Illinois 60077

Bobby G. Holman
Assistant Vice President
Aetna Life Insurance Co.
Hartford, Connecticut 06143

C. G. Holthus
President
The First National Bank of York
York, Nebraska 68467

Scott Hoober
Federal Reserve Bank of Kansas City

John A. Hopkin
Stiles Professor of Ag Finance
Texas A&M University
College Station, Texas 77843

Morris Huelskoetter
Vice President-Credit
Federal Intermediate Credit Bank
St. Louis, Missouri 63166

William Hughes
Vice President
American Bank and Trust Co
Reading, Pennsylvania 19603

Gerald Hurtz
Vice President and Treasurer
Federal Land Bank of Omaha
Omaha, Nebraska 68102

George D. Irwin
Director, Economic Analysis Div.
Farm Credit Administration
Washington, D.C. 20578

Marlin Jackson
Chairman and President
Security Bank
Paragould, Arkansas 72450

Lester Jacobson
The Jackson State Bank
Jackson, Wyoming 83001

Raymond G. Johnston
President and Chief Executive Officer
Central National Bank and Trust Co.
Des Moines. Iowa 50304

John E. Karn
President
First Stock Yards Bank
St. Joseph, Missouri 64504

Elston B. King
President
American Bank of Plattsburg
Plattsburg, Missouri 64477

David L. Kingland
Vice President
First National Bank
Mason City, Iowa 50401

Milton G. Klein
Vice President
The Equitable Life Assurance Society
New York, New York 10019

Danny A. Klinefelter
Texas A&M University
College Station, Texas 77843

Robert E. Knight
President
Alliance National Bank
Alliance, Nebraska 69301

Brad Korell
Vice President
National Bank of Commerce
Lincoln, Nebraska 68501

Clinton D. Kurtz
President
Citizens State Bank of Norwood
Norwood, Minnesota 55368

Bob Lee
Financial Editor
Daily Oklahoman
Oklahoma City, Oklahoma 73125

John E. Lee, Jr.
Director, National Economics Division
U.S. Department of Agriculture
Washington, D.C. 20250

David Lins
Visiting Associate Professor
Texas A&M University
College Station, Texas 77843

James Lipton
President
Ida County State Bank
Ida Grove. Iowa 51445

Howard K. Loomis
President
The Peoples Bank
Pratt, Kansas 67124

Linton C. Lull
Chairman, Governing Council,
Kansas Bankers Association
Smith County State Bank and Trust
Smith Center, Kansas 66967

Mike Manies
Federal Reserve Bank of Kansas City

Bill Manring
Assistant Vice President
1st National Bank
St. Joseph, Missouri 64501

Richard W. Martin
First Vice President
The Jackson State Bank
P.O. Box 1788
Jackson, Wyoming 83001

Jack Maurer
Chairman
Security National Bank and Trust Co.
Duncan. Oklahoma 73533

Mitchel M. Maycock
Vice President
Stockmens Bank and Trust Co.
Gillette, Wyoming 82716

Robert L. McCormick, Jr.
Second Vice President, IBAA
President, Stillwater National Bank
Stillwater, Oklahoma 74074

Larry Meeker
Federal Reserve Bank of Kansas City

Donald W. Meinhold
Vice President
Metropolitan Life Insurance Co.
Agricultural Investments
Overland Park, Kansas 66207

Symposium Participants

Emanuel Melichar
Senior Economist
Board of Governors of the Federal Reserve System
Washington, D.C. 20551

Gene Meyer
Commodity News Service
2100 W. 89th St.
Leawood, Kansas 66202

Janet Meyer
Kansas City Star
1729 Grand Ave.
Kansas City, Missouri 64108

Donald C. Miller
Vice Chairman
Continental Illinois National Bank and Trust Co.
Chicago, Illinois 60693

Glenn Miller
Federal Reserve Bank of Kansas City

Walter W. Minger
Senior Vice President
Bank of America, N.T. & S.A.
San Francisco, California 94118

C. P. Moore
President
Northwestern National Bank
Sioux Falls, South Dakota 57117

Forrest A. Mowry
Vice President and Manager
Seattle-First National Bank
Seattle, Washington 98124

Don J. Murphy
Chairman and CEO
The United States National Bank
Omaha, Nebraska 68103

J. Barry Myers
President
Columbia Union National Bank
Kansas City, Missouri 64106

Jimmy Norris
Assistant Vice President
Federal Intermediate Credit Bank
New Orleans, Louisiana 70150

Charles Olson
Regional Manager
Travelers Insurance Companies
Overland Park, Kansas 66201

Posey B. O'Neal
Senior Agricultural Investment Officer
John Hancock Mutual Life Insurance Co.
Kansas City, Missouri 64112

Gen. and Mrs. H. L. Oppenheimer
Chairman of the Board
Oppenheimer Industries, Inc.
Kansas City, Missouri 64141

Tony Oppenheimer
Senior Vice President
Oppenheimer Industries, Inc.
Kansas City, Missouri 64141

Donald D. Osburn
Professor
Agricultural Economics Department
University of Missouri
Columbia, Missouri 65201

John R. Owen
Executive Vice President
Commerce Bank of Kansas City
Kansas City, Missouri 64141

J. Charles Partee
Member of the Board of Governors
of the Federal Reserve System

David L. Patrick
Executive Vice President
First National Bank and Trust Co.
Lincoln, Nebraska 68501

John Penson
Texas A&M University
College Station, Texas

Jack K. Perry
Senior Vice President and Treasurer
The Federal Land Bank of Wichita
Wichita, Kansas 67202

J. Richard Pringle
N.C.A. Cow-Calf Chairman
National Cattlemen's Assn.
Yates Center, Kansas 66783

J. V. Prohaska
Regional Director
Federal Deposit Insurance Corp.
Kansas City, Missouri 64108

Robert K. Reese
Chairman and President
The Livestock National Bank
Kansas City, Missouri 64102

Don A. Riffe
Associate Economist
Federal Reserve Bank of Dallas
Dallas. Texas 75222

Barry K. Robinson
Federal Reserve Bank of Kansas City

James A. Rogers
Senior Vice President
Federal Intermediate Credit Bank of Texas
Houston, Texas 77001

John Rogers
Deputy Regional Administrator
Comptroller of the Currency
Kansas City, Missouri 64105

William R. Rooney
Vice President
BC/FICB of St. Paul
St. Paul, Minnesota 55101

Sanford Rose
American Banker
525 W. 42nd Street
New York, New York 10036

J. Russell Roy
Director of Mortgages
Kansas City Life Insurance
Kansas City, Missouri 64141

Dan Ruck
Kansas City Times
Kansas City, Missouri 64108

Robert E. Sadler, Jr.
Vice President
Chemical Bank
New York. New York 10005

Edwin J. Salvi
Vice President
First National Bank of Denver
Denver, Colorado 80217

George Schaller
President
Citizens First National Bank
Storm Lake, Iowa 50588

LeRoy H. Schnoor
Senior Vice President
Federal Intermediate Credit Bank of Wichita
Wichita, Kansas 67202

Lee R. Schuster
Executive Vice President
Oppenheimer Industries, Inc.
Kansas City, Missouri 64141

Symposium Participants

Delano E. Scott
President
The Routt County National Bank
Steamboat Springs, Colo. 80477

Alan R. Sleeper
Box 125
Alden. Kansas 67512

Jim Sleeper
Box 125
Alden. Kansas 67512

Richard L. Smith
President
The State Bank
Fort Dodge, Iowa 50501

Lloyd M. Smith
Senior Vice President
First-Wichita National Bank
Wichita Falls. Texas 76307

Thomas R. Smith
President
Fidelity Brenton Bank and Trust
Marshalltown, Iowa 50158

Lauren Soth
801 State Farm Road
West Des Moines, Iowa 50265

Dale L. Stansbury
Director, Food Agriculture
National Assoc. State University &
Land Grant Colleges
Washington, D.C. 20036

Dirck H. Steimel
Agricultural Reporter
Wichita Eagle and The Beacon

Gene D. Sullivan
Research Officer and Sr. Ag
Economist
Research Department
Federal Reserve Bank of Atlanta
Atlanta, Ga. 30301

Cheryl Tevis
Associate Editor
Successful Farming
1716 Locust Street
Des Moines, lowa 50336

James O. Timberlake
Senior Vice President
Fidelity Bank, N.A.
Oklahoma City, Oklahoma 73124

L. J. Titus
Chairman
The First National Bank of Holdrege
Holdrege, Neb. 68949

Clarence W. Tow
Federal Reserve Bank of Kansas City

Alan R. Tubbs
President
First Central State Bank
Dewitt, Iowa 52742

Robert C. Vasko
Vice President
Continental Illinois National Bank
Chicago, Illinois 60693

William H. Vernon
Director of Denver Branch
Sante Fe, New Mexico 87501

Carl Webb
Assistant Vice President
First National Bank
Dallas, Texas 75283

Kerry Webb
Federal Reserve Bank of Kansas City

Richard I. Weigand
Vice President
Colorado National Bank
Denver, Colorado 80217

William O. Weis
Senior Vice President
Columbia Union National Bank & Trust Co.
Kansas City, Missouri 64106

Howard Westmoreland
Vice President
The Prudential Insurance Co.
Newark, New Jersey 07101

Carroll Wilkerson
Federal Reserve Bank of Kansas City

J. M. Wilkerson
Senior Vice President and SLO
Security National Bank
Kansas City, Kansas 66117

Donald E. Wilkinson
Farm Credit Administration
490 L'Enfant Plaza
Washington, D.C. 20578

W. D. Willer
Executive Vice President
Decorah State Bank
Decorah, Iowa 52101

Scott Winningham
Federal Reserve Bank of Kansas City

David Workmon
Vice President
Oppenheimer Industries, Inc.
Kansas City, Missouri 64141

T. Yabu
Consul. General of Japan
Kansas City, Missouri