

Economic Review



FEDERAL RESERVE BANK OF KANSAS CITY

July-August 1983

Financing Agriculture in the 1980s

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Of Agricultural Lenders
In a Time of Farm Distress

Recent Developments at Banks
And Nonbank Depository Institutions

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Farm credit policy has reached a crossroads. With rural credit markets becoming more efficient all the time, there is less need for government credit to producers. Better uses of the public's limited resources could be in funding export credit, making credit guarantees, and developing agricultural export markets.

Financial Condition 13 Of Agricultural Lenders In a Time of Farm Distress

Agricultural lenders have clearly felt the pinch of the recent farm recession, but agricultural finance markets seem to have come through the recession unimpaired. Agricultural banks have done about as well on average as other banks, and the Farm Credit System seems capable of absorbing its losses without damage to its financial stability.

Recent Developments at Banks 33 And Nonbank Depository Institutions

Faced with unfavorable economic conditions—recession, high inflation, and volatile interest rates—as well as a restrictive monetary policy and the deregulation of depository institutions, banks appear to have fared better than nonbanks. Part of the difference is that banks have been more able to respond to demand for business loans than their more traditionally consumer-oriented competitors.

Financing Agriculture in the 1980s

By Marvin Duncan

The nation's agricultural sector has grown rapidly in recent years, in both its productive capacity and the value of the assets it controls. Credit to finance capital investment and production inputs has been central to that growth. Because farmers have become large users of borrowed capital to supplement their own resources in farming, because biological production cycles in agriculture make the timing of credit availability so important, and because the price and the terms of credit to farmers are important mechanisms by which farmers are linked to broader economic policies, it is fitting that attention be given to the issue of financing agriculture in the 1980s as a part of its discussion of farm policy alternatives.

America's farmers appear to be on the verge of an economic recovery after the most serious and prolonged period of financial stress in more than 40 years. Net farm income is ex-

pected to improve only moderately this year, perhaps to the \$25 to \$29 billion range. But that will still not bring farm profitability anywhere near the \$32.3 billion earned in 1979. The rather modest improvement in income will be due to three factors: slightly higher livestock cash receipts, improved crop prices, and reduced expenditures for nonfarm production inputs. The last two factors can be attributed to the payment in kind (PIK) program.

The 1983 improvement in farm income will come largely as a result of unprecedented farm program expenditures, which apart from PIK are expected to reach \$21 billion this year. Depending how PIK is handled in government accounting, another \$11 billion could be added to the cost of the 1983 program. By comparison, government farm program expenditures amounted to \$11.7 billion in 1982 and \$4.0 billion in 1981. Yet, despite massive costs, the effect on farm income has been modest. Indeed, hopes for significant and sustainable improvement in farm income continue to rest on improved performance in the economies of the United States and its trading partners.

The recent period of income stress has also spawned some serious financial problems for farmers. Farmers either leaving farming or selling part of their capital assets as a result of financial stress represent a substantially larger

Marvin Duncan is a vice president and economist at the Federal Reserve Bank of Kansas City. This article is based on his testimony June 23, 1983, before the Agricultural Subcommittee of the Joint Economic Committee of Congress. The views expressed here are those of the author and do not necessarily represent the views of the Federal Reserve Bank of Kansas City or the Federal Reserve System. Marla Borowski, a research associate in the Economic Research Department, assisted with preparation of the article.

TABLE 1

Farm Debt

(Percent of total on January 1)

REAL ESTATE						
Year	Total Amount (Billions dollars)	Federal Land Banks	Life Insurance	Banks	Farmers Home Administration	Individuals and Others
1970	\$ 29.2	22.9%	19.7%	12.1%	7.8%	37.5%
1975	44.6	30.0	14.1	13.4	7.2	35.3
1980	85.4	34.7	14.3	10.1	8.3	32.6
1981	95.5	37.6	13.5	9.2	8.1	31.6
1982	105.6	41.3	12.4	7.9	8.3	30.1
1982*	109.5	43.1	11.7	7.7	8.3	29.2

NONREAL ESTATE							
Year	Total Amount (Billions dollars)	Banks	Production Credit Assoc.	Federal Inter- mediate Credit Banks	Farmers Home Adminis.	Individuals and Others	Commodity Credit Corp.
1970	\$ 23.8	43.3%	18.9%	0.9%	3.3%	22.4%	11.2%
1975	37.0	49.3	25.6	1.0	2.8	20.4	0.9
1980	80.4	38.6	22.4	0.8	11.2	20.7	6.3
1981	86.4	36.5	22.7	0.9	13.6	20.5	5.8
1982	96.1	34.3	21.9	0.9	15.0	19.6	8.3
1983*	108.0	33.5	18.6	0.8	13.6	18.1	15.4

TOTAL (Billions of dollars on January 1)					
1970	1975	1980	1981	1982	1983
\$53.0	\$81.6	\$165.8	\$181.9	\$201.7	\$217.5

Source: For 1970; *Agricultural Finance Outlook*, November 1979, Economics, Statistics and Cooperative Service, USDA (1979). For 1975-83; *Agriculture Finance Outlook and Situation*, Economic Research Service, USDA (1982).

*1983 data are preliminary.

Source: For 1970; *Agricultural Finance Outlook*, November 1979, Economics, Statistics and Cooperative Service, USDA (1979). For 1975-83; *Agriculture Finance Outlook and Situation*, Economic Research Service, USDA (1982).

*1983 data are preliminary.

proportion of all farmers than would be expected under more normal economic conditions. The PIK program, moreover, will apparently increase short-term financial pressures on livestock producers as feed costs rise and on agribusinesses as planted acres are cut back.

Thus, many students of farm policy would agree that old policy prescriptions are no longer working well. It is widely recognized that while

the PIK program provides a short-term boost to farm income and asset values, it does not address the underlying problems facing farmers. Rather, it serves the useful purpose of providing some breathing space that farmers, agribusinesses, and policymakers can use in addressing these underlying problems. In that context, this series of hearings is appropriately timed.

TABLE 2
Balance Sheet of the Farming Sector
 (Billions of dollars on January 1)

	1970	1975	1980	1981	1982	1983*
ASSETS						
Real estate assets	\$215.8	\$368.5	\$ 755.9	\$ 830.0	\$ 823.8	\$ 789.1
Nonreal estate assets	76.3	117.6	208.8	218.9	223.2	233.5
Total physical assets	292.1	486.1	964.7	1,048.9	1,047.0	1,022.6
Total financial assets	22.8	31.4	40.1	42.2	44.8	47.4
Total farm assets	314.9	517.5	1,004.8	1,091.0	1,091.8	1,070.0
CLAIMS						
Real estate debt	29.2	46.3	85.4	95.5	105.6	109.5
Nonreal estate debt to:						
Commodity Credit Corp.	2.7	0.3	5.1	5.0	8.0	15.4
Others	21.1	35.2	75.3	81.5	88.1	92.6
Total liabilities	53.0	81.8	165.8	182.0	201.7	217.5
Proprietors' equity	261.9	435.7	839.0	909.0	890.1	852.5
Total claims	314.9	517.5	1,004.8	1,091.0	1,091.8	1,070.0
Debt-to-asset ratio	16.8	15.8	16.5	16.7	18.5	20.3

Source: For 1970 and 1975; *Agricultural Finance Outlook*, November 1979, Economics, Statistics and Cooperative Service, USDA (1979). For 1980-83; *Agricultural Finance Outlook and Situation*, December 1982, Economic Research Service, USDA (1982).
 *1983 data are preliminary.

In examining the issue of financing agriculture in the 1980s, this article first reviews the historical patterns of credit use by farmers as well as the credit problems that have emerged to confront agriculture. Next, the efficiency of rural credit markets is reviewed. And finally, a discussion is provided of the policy options for the nation's food and fiber sector and the implications of these options for financing agriculture.

Historical credit use patterns

Farmers have increasingly relied on debt financing over the past decade. Total farm debt outstanding has risen 310 percent since 1970 (Table 1). Real estate debt has risen 275 percent and nonreal estate 354 percent. During much of that period, however, farm asset values rose

even faster, holding the farm sector's debt-to-asset ratio around 16 to 17 percent (Table 2). Most of the increase in farm asset values was due to escalating farm real estate values. From 1970 to 1981, when values peaked, national farmland values increased at an average annual rate of 13.4 percent—well ahead of the 7.2 percent average annual increase in the GNP implicit price deflator.

It is only in the last two years that the sector's debt-to-asset ratio began the rapid climb that has taken it to 20.3 percent at the beginning of 1983, the highest since the data series began in 1940. Though that ratio still indicates substantial financial resilience in the farm sector, the picture is less benign for those farmers producing most of the nation's food and fiber. The U.S. Department of Agriculture (USDA) has estimated that as many as 45 percent of the farm operators with annual cash sales of

\$200,000 or more—the operators that account for half of all cash receipts—carry debt-to-asset ratios of over 40 percent. That is about twice the ratio for the farm sector as a whole. About 60 percent of all farm debt is owed by farmers with debt-to-asset ratios of more than 40 percent. Farmers with ratios of 70 percent or more carry 30 percent of all farm debt.

The financial problems of farmers have developed for a number of reasons. First, the farm recession drove farm income and farm cash flow well below expected levels. Second, interest rates paid by farmers escalated sharply as a result of rising price inflation and changes in rural financial markets.

These factors have resulted in declining farmland values. From peak values in early 1981, U.S. farm real estate values have declined by a little more than 6 percent. In the Tenth Federal Reserve District, our agricultural credit surveys indicate nonirrigated cropland values as of July 1, 1983, have fallen about 14 percent from their peak value. The decline in asset values quickly brought to a head the problems of farmers who had grown accustomed to periodic refinancing of operating and term debt using escalating land values to provide collateral.

By 1982, reduced cash flow, the high real cost of carrying debt, and declining land values had combined to markedly boost farm loan delinquency rates. Last year, loan repayment rates dropped sharply across the Farm Belt. Demand for loan extensions and renewals escalated, as well. In the Tenth Federal Reserve District, for example, our surveys show the proportion of farmers who left farming for all reasons during the fourth quarter of 1982 and the first quarter of 1983 was about 65 percent higher than bankers considered normal. The proportion of farmers continuing in business, but selling capital assets to relieve financial stress, was about three times greater than bankers con-

sidered normal. Nonetheless, anecdotal evidence suggests that only about 12 to 15 percent of the Tenth District and the nation's farmers are having very serious financial problems.

Farm Credit System (FCS) data suggest a similar, though perhaps not as striking, pattern of loan delinquencies and forced exits from farming across the nation. At the end of 1982, 2.2 percent of Production Credit Association and Federal Land Bank borrowers were in foreclosure. And at the end of the first quarter of 1983, 10.3 percent of their loans were delinquent. Even though 35 percent of Farmers Home Administration (FmHA) borrowers were delinquent on March 31, foreclosure action was being taken by the agency against only 0.5 percent of all FmHA farm borrowers (excluding rural housing loans).

These higher rates of farm failures must be viewed in an historical context, however. Farm failures in the 1970s were held to unusually low levels through expanded government credit programs, such as the Livestock Emergency Credit and the Economic Emergency Credit programs of the FmHA. Yet, despite good intentions and the \$7.7 billion in total credit obligated under these two programs, it is difficult to find success stories from the programs. Bankers indicate that with few exceptions recipients of those loans are once more in trouble and account for a significant proportion of the current business failures and partial liquidations among U.S. farmers.

Thus, it seems appropriate to restrain new extensions of credit under the programs and to refocus federal credit programs. There is a point at which new extensions of credit, regardless how easy the terms, are simply not in the best interest of the borrower. Beyond some point, further extension of credit likely means the farmer will continue in business until depleting all his equity and will leave farming with no wealth. Indeed, it was the widespread

substitution of credit for income during the past several years that is responsible for the current unfortunate plight of many financially troubled farmers.

Efficiency of credit markets

Public policymakers historically have been concerned with credit availability for farmers. In the past, when rural credit markets were relatively isolated from national financial markets and before the emergence of the FCS as a major national lender to agriculture, such concerns may have been justified. As a consequence, a variety of federal programs were put into place to assure farmers access to credit.

For most of the previous decade—indeed, much of the post-World War II period—institutional arrangements in agriculture have tended to provide farm credit at rates that were often below national money market rates. Until 1978, FmHA lending for real estate was at below market rates, and economic emergency loan program funds were available far below market rates at a maximum of 3 percent. Commodity Credit Corporation (CCC) lending was also at subsidized rates until the mid-1970s. The FCS, using average cost pricing in an environment of rising interest rates, also priced their loans below the marginal cost of funds, although variable interest rate loans tended to limit the differential over time.

Thus, agriculture may have used more credit than it would have if the price of that credit had more accurately reflected national financial market conditions. Moreover, financial market conditions during the 1970s, both in and out of agriculture, tended to encourage firms to use leverage in their growth strategies. Institutional arrangements, unanticipated price inflation, and expansionary economic policies combined to hold real interest rates in credit markets near zero during the 1970s. As a result, it is not sur-

prising that agricultural debt levels grew so rapidly during that period.

In the past, agricultural banks typically raised loanable funds and made loans in the same local geographic market. During periods of restraint in monetary policy, interest rates charged by those banks were usually lower than national market rates. Conversely, rural rates did not fall as low as national market rates during periods of ease in monetary policy. The recent institutional and regulatory changes in financial markets and the return of greater price stability in the economy, however, have largely eliminated the isolation of rural financial markets. As a result, loan funds at rural banks now tend to be priced much nearer national financial market rates.

Looking to the future, a number of factors may lead to a credit market environment marked by a continuation of high real interest rates. Among those factors are large demands on capital markets to finance public budget deficits, credit demands by the private sector to modernize and enlarge the U.S. industrial base, and the ongoing deregulation and internationalization of U.S. financial markets. Thus, market forces may weigh against increased leverage and in favor of increased use of internally and externally generated equity funds in farm business growth.

Farm policy alternatives

This section of the article outlines recommended policy options to address the issues raised and emphasizes the linkage between improved performance for the broader economy and improved performance for agriculture.

Credit policy

Access to credit and the terms on which credit is made available remain important

agricultural policy tools. As a result of the improved efficiency of credit markets, policy-makers have an opportunity to chart an equitable and market oriented credit policy for farmers. They also have an opportunity to direct the allocation of government credit to uses with a high return, both to the farm and the national economies.

It can be reasonably argued that agriculture now has access to very efficient credit markets and can acquire all the credit it can profitably use at competitive rates. Though it is probably true that agency status enables the FCS to raise loanable funds at somewhat lower cost than would otherwise be the case, it does not seem prudent to tamper with that status at this time. To do so currently would probably not materially reduce agricultural credit demands and could disrupt the servicing of agriculture's credit needs at a time when farmers can ill afford such instability.

With efficient credit markets, one can expect that agriculture's credit needs will be well served in the future. Indeed, if a significant part of the current U.S. farm surplus results from overinvestment in agriculture and excess capacity to produce at prices acceptable to farmers, policymakers should carefully consider any further investment with credit at below market cost or on soft terms. While such action may appear to benefit hard pressed farmers at the time, experience indicates the benefit may be at best transitory. Furthermore, it may be an inefficient allocation of credit resources and may also discriminate against producers that have obtained credit on normal commercial terms. To the extent that such credit expands total farm output beyond what can be marketed at acceptable prices, it simply creates another public policy problem.

Financing export sales of farm products is an area in which public credit extension could yield a high return in the 1980s. Export sales of food

and fiber will continue to be limited by the inability of food deficit countries to exercise effective market demand. Additionally, credit extensions appear to be helpful in meeting competition by other sellers in world markets, as well as being less confrontational than many subsidy mechanisms. Thus, it seems appropriate to explore ways of using credit and credit guarantee programs to improve demand for U.S. farm exports in world markets. For example, the revolving export credit program should be funded. Additionally, credit guarantee programs could be expanded. Moreover, adequate funding for an intermediate-term credit program could fill an important need. To facilitate market development, it is important to provide multi-year credit and food aid commitments to world agricultural customers and aid recipients.

In view of the public interest in preserving the nation's agricultural production capability, properly designed programs to assist in financing soil conservation would appear to be another productive use for government credit. About 94 million acres of U.S. farmland are losing five or more tons of topsoil per acre through erosion each year. Government credit might be used in financing long-term improvements in land management, such as terraces or the return of land to a soil conserving use. Subsidized interest rates and loan forgiveness could be used to encourage participation in conservation programs. Conversely, full loan repayment at market rates could be required from farmers who converted land back out of the subsidized conservation practice within a specified time period.

Despite the efficiency of agricultural credit markets, the need will remain for public extension of credit to a proportion of new entrants into agriculture. The average age of America's farmers in the last Agricultural Census was 50 years, suggesting a substantial proportion of them could retire by the end of this decade.

Farm consolidation could reduce the number of replacement farmers needed and many entrants will likely receive family assistance in starting their farm businesses. Additionally, market forces may influence more farmers to leave part of their assets invested in agriculture upon retiring—thus reducing initial capital requirements for entrants into farming. Nonetheless, some entrants will need FmHA credit for equipment, land, and operating expenses. FmHA lending for those purposes currently amounts to about \$1.9 billion a year. While I have earlier questioned the usefulness of the FmHA large scale economic emergency lending programs, I do support a limited and carefully targeted credit program to provide assistance to new entrants into farming.

The Commodity Credit Corporation commodity loan program has a longstanding record of success in aiding farmers in marketing their products. Hence, no action should be taken that would jeopardize that program.

A variety of other credit programs could be proposed. Although many might have merit, federal budget pressures likely mean all future government spending and lending will undergo close scrutiny. It is important, then, to allocate government assistance to activities with the highest payoff to the American public.

Credit demand by farmers may not grow as rapidly in the decade ahead as in the previous decade. The volatility in commodity prices inherent in supplying a world market for food and fiber appears likely to result in greater credit rationing on the part of farmers themselves. Lower rates of price inflation will also slow growth in farm asset values and input costs. If real interest rates were higher than those typical of the past couple of decades, that would likely weigh against highly leveraged farm business growth strategies. However, credit demand to support farm export sales and to facilitate soil conservation practices could

grow more rapidly in the 1980s than previously.

Price signals

Improved farm prices and income are dependent on demand growth both in the domestic economy and in trading partner economies. Because trading partner countries often have more rapid population growth than the United States—and higher propensities to spend additional income on food—export markets are particularly important. Farmers and their agribusiness partners in the food and fiber industry have invested billions of dollars in preparing to sell in export markets and cannot comfortably turn their backs on such an opportunity. Yet, U.S. commodity prices above world market prices limit the ability of farmers to compete in those markets.

Commodity Credit Corporation loan rates that are above world market prices work to the disadvantage of farmers in three ways. First, farmers are encouraged to produce more than world markets can accept without causing market prices to fall. Second, high U.S. prices tend to encourage expanded production elsewhere in the world, adding to the competition faced by U.S. farmers. Finally, U.S. farmers capitalize those government price signals into their land values and equipment costs, raising their cost of production and reducing their competitiveness in world markets.

Government price signals above world prices are largely the result of legislated price increases linked to adjustments for inflation. More appropriately, I believe, CCC loan rates for major farm commodities traded in world commerce should be adjusted to market clearing levels, that is, world prices.

Some provision for carrying stocks, as in the Farmer Owned Reserve, is probably needed to ensure that the United States is a reliable sup-

plier to its customers. Reserve stocks add a measure of stability to commodity prices as well. Clearly, the reserve should have a maximum capacity related to the quantity needed to make sure the United States can supply its domestic and international markets. It should not, however, be used as a major income support device as in the recent past. Moreover, the United States should seek to avoid carrying, in its own stocks, the world's grain reserves—attempting instead to convince other major producer and consumer countries to share in carrying the inventory.

Export markets

It would not be reasonable to fashion a public policy for U.S. food and fiber without substantial attention to export markets. Production from about two out of every five harvested acres in the United States has been destined for the export market. Moreover, every additional billion dollars of farm exports creates about 28,000 to 30,000 new jobs in the U.S. economy. Farm exports are also an important factor in reducing the U.S. balance of trade deficit.

The United States should take a number of measures to improve its position in world agricultural trade. Trade policy should be developed that is conducive to expanded exports of farm and other products. Included in the policy should be a strong and unequivocal statement that the United States will be a reliable supplier of farm products in world markets. Language to that effect should be included in the Export Administration Act now before the Congress. To do otherwise may continue to identify this country as an unreliable supplier of farm products. Efforts to reduce unfair trade practices and trading partner restraints against importing U.S. farm products should also be pursued with vigor and

prudence. Such efforts should be continuing and long term. Moreover, expectations of results must be realistic.

An increased long-term effort should be made to develop foreign markets. Food aid and public sector/private sector market development projects are important parts of that effort. Long-term economic aid to developing countries is helpful in developing markets for our farm products as well. Competitively priced transportation of products to customer countries also needs to be assured. As noted earlier, credit and credit guarantee programs are very important. Perhaps an export PIK program should be considered as well. Finally, broader U.S. economic policies can either enhance or inhibit the competitiveness of U.S. products in world markets by affecting relative rates of economic growth across countries, the U.S. inflation rate, and the international exchange value of the dollar.

Supply control

In the near term—and perhaps throughout the 1980s—farmers appear to have significant excess capacity to produce. Hence, some type of multi-year land retirement program appears to be needed. While it seems unlikely that as much land needs to be retired as in the 1960s, when 58 million acres—at the peak—were withdrawn from production, it seems important that a longer term program be considered. Land retirement could be linked to soil conservation efforts—returning to conserving uses crop lands most susceptible to soil erosion. Such conservation use could include a return to grass or to forest. Some procedure should also be devised, of course, for returning land to cultivation if demand later warranted. Land retirement programs, however, should not become a means to abruptly increase the nation's supply of beef—thus harming cattle pro-

ducers. Additionally, it seems prudent to give the Secretary of Agriculture discretionary authority to implement short-term voluntary and paid land diversion programs as a means for providing better balance of market supply with demand. While I would be reluctant to see mandatory procedures for short-term land retirement written into legislation, the Secretary of Agriculture could be encouraged to consider such action when conditions warrant.

Farm income maintenance

Inherent in the policy initiatives I have suggested are both opportunities and risks. The initiatives are consistent with growing markets for U.S. farm products, but dependence on market forces carries with it price and income volatility. While it may be politically unacceptable for the government to underwrite all the downside risk in farm prices and income, some public policies may be necessary to limit that risk.

It might be more practical to provide some income protection than to support product prices at levels which may sometimes be above market clearing levels. Thus, some form of a target price system with direct payments to farmers is appealing. But the budget exposure under such a system will probably have to be much more tightly defined in future legislation. Perhaps the program's income maintenance and production level linkage should be reevaluated. The current system of deficiency payments for cooperating producers on nearly all production of covered commodities can be questioned on the basis of both efficiency and equity.

Insurance mechanisms appear to hold much promise for underwriting farm income risk. Some adjustments in cost and benefit levels, as well as increased coverage, for the Federal Crop Insurance program deserves attention from the Congress. Continued partial subsidy of pre-

miums would likely be necessary to attract farmer support. Congress should also investigate the potential usefulness of an income or product price insurance program. Such a program might include the use of commodity options and could perhaps be offered by private insurers. If feasible, the program would offer farmers another means of protecting themselves from the downside of commodity price cycles. Of course, insurance programs need widespread participation to work. Farmers would likely purchase insurance only if the government were not already providing it at no cost—as in FmHA and Agricultural Stabilization and Conservation Service (ASCS) administered emergency/disaster programs providing credit and transfer payments.

Broader policy considerations

Farmers have placed great importance on development of legislative solutions to commodity price and farm income problems. However, the growing interdependence of the farm sector with the broader U.S. economy and the sector's increased dependence on export markets now mean that broader economic policies have become at least as important to farmers as farm policy.

For those farmers that rely on agricultural production as their primary source of income, broader economic policies are important determinants of growth in farm product demand, production cost increases, and the cost of capital. However, for the more than 1.5 million small farmers that are now primarily dependent on off-farm jobs and income for their livelihood, farm programs are relatively unimportant. What is important to these small farmers is broad ranging economic growth that can stimulate job formation and rural development programs which provide employment opportunities near their farm residences. Thus, policies that improve the performance of the

entire U.S. economy are important to the welfare of all the nation's farmers.

Conclusion

In summary, the integration of the food and fiber sector into the broader United States and world economies seems to call for more market oriented policy initiatives. Accommodating such policy changes while balancing the legitimate interests of farmers, consumers, and others affected directly by agriculture will require creative policy formulation.

The policy initiatives suggested in this testimony would be expected to support the growth of U.S. farm product sales—at home and abroad—and to limit the adverse impact of downward price and production volatility in U.S. agriculture. This would be accomplished in the context of an increasingly market oriented policy—consistent with limited government intervention. In such an environment, when coupled with efficient national and rural credit markets, the financing needs of U.S. agriculture should be well served during the 1980s.

Sustainable growth in the U.S. economy and the economies of its trading partners is fundamental to finding complementary solutions to problems addressed by food and fiber policy. In many respects, policy initiatives that improve broader economic performance will prove at least as important in determining farm income and the adequacy of financing agriculture as what is done with food and fiber policy.

Financial Condition Of Agricultural Lenders In a Time of Farm Distress

By Dean W. Hughes

The U.S. farm economy has suffered three years of severe setbacks that have raised questions about the financial condition of agricultural lenders. This article examines the financial condition of the two largest private lenders to agriculture, commercial banks and the Farm Credit System, to see how they fared during the farm recession of 1980-82.¹ Changes in the profitability and solvency of these institutions are analyzed from 1970 through 1982, a span that includes two periods of financial stress in agriculture, 1976-77 and 1980-82, and allows current difficulties to be put in at least a limited historic perspective.

The first section of the article provides background on the financial situation in agriculture.

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¹ For two other recent papers on this subject, see E. Melichar, "Trends Affecting and Exhibited by Commercial Banks in Agricultural Areas," *Agricultural Communities: The Interrelationships of Agriculture, Business, Industry, and Government in the Rural Economy*, a symposium, Congressional Research Service, and P. J. Barry and W. F. Lee, "Financial Stress in Agriculture: Implications for Agricultural Lenders," an invited paper presented at the AAEA meetings August 1-3, 1983.

The second section examines changes in the financial condition of agricultural banks, and the third analyzes financial conditions in the Farm Credit System.

Based on the analysis presented here, the situation for agricultural lenders appeared worse at the end of 1982 than in the cyclical downturn in agriculture in 1967-77. Loan losses both at agricultural banks and within the Farm Credit System were higher than at any other time in recent history. Nevertheless, agricultural banks fared no worse than nonagricultural banks and seem likely to resolve their current problems. The Farm Credit System also seems capable of absorbing current losses without impairing its financial stability.

Financial conditions in the farm sector

The extent of the financial deterioration of the farm sector since 1979 can be seen when contrasted against the sector's previous cyclical decline in 1976-77. The contrast must be interpreted carefully, however, because some of the differences in the two periods were due to changes in rural financial markets since the earlier agricultural recession.

Three financial statements are used to describe the financial condition of the farm sec-

tor—the farm income statement, the balance sheet of the farming sector, and the sectorial cash sources and uses of funds statement.² Together, these statements show that the financial condition of farmers has seriously deteriorated over the last three years. Farms are less profitable. Farmers' equities have been reduced. And farmers have faced reduced cash flows that caused them to reduce or postpone capital improvements.

Farm profitability

Both agricultural recessions have been periods of declines in net farm income (Chart 1).³ From 1980 through 1982, net farm income averaged 26 percent less than in 1978-79. By contrast, net farm income in 1976-77 averaged only 7 percent less than in 1974-75.

The difference, however, was not as significant as this nominal comparison suggests. After removal of the effects of inflation, by deflating net farm income by the GNP implicit price deflator, net farm income in 1980-82 averaged 7.5 percent less than in 1978-79.

The decline in inflation-adjusted net farm income between 1975-75 and 1976-77 was 7.7 percent. In terms of its effect on real income, then, the recent agricultural recessions have been similar. Differences that distinguish the recent

downturn in the farming sector lie in other indicators of financial condition.

Farm solvency

Farm solvency is measured by the equity of the farm sector—the sector's total assets less its total debts (Chart 2). Two principal factors determine farm sector equity—farm real estate values and farm debt. Real estate accounted for almost three-quarters of the value of all farm assets at the end of 1982, and for the first time since records were started in 1940, farm debt amounted to over 20 percent.

Nominal farm real estate values declined 1 percent in 1981, after increasing for 27 consecutive years, and then declined 4 percent in 1982. This was the first time since 1931 and 1932 that nominal farm real estate values declined two years in succession. In constant dollars, yearend farmland values in 1982 were about 13 percent less than at their peak in 1980.

Farm debt, meanwhile, has continued to rise despite declining farm real estate values and incomes. Nominal farm debt has increased every year since 1970. Even adjusted for inflation, farm debt has continued to grow, though at a slower rate in recent years as incomes and equity have declined and real interest rates have risen.

As a result of the decline in real estate values and the rise in debt, farm equity declined in 1981 and 1982. By the end of 1982, equity was down 6 percent from two years earlier. Adjusted for inflation, equity levels began declining a year earlier, so that by the end of 1982 they were down about 15 percent from their peak in 1979. These declines stand in sharp contrast to 1976-77, when nominal farm equity grew 27 percent and real equity grew 14 percent. The current recession, therefore, has done much more damage to farmers' solvency and increased the riskiness of farm loans.

² Data for the analysis of the income statement and balance sheet of the farming sector are available in *Economic Indicators of the Farm Sector: Income and Balance Sheet Statistics, 1981*, U.S.D.A., Economic Research Service, ECIFS1-1, August 1982, and cash flow data are available in *Agricultural Finance Outlook and Situation*, U.S.D.A., Economic Research Service, AFO-23, December 1982.

³ The Farm Credit Administration has reported that the Department of Agriculture will revise farm income statistics back through 1981. See FCA Agricultural Situation Report published July 8, 1983. This article was completed before these revisions were released.

CHART 1
U.S. Net Farm Income

Billions of dollars

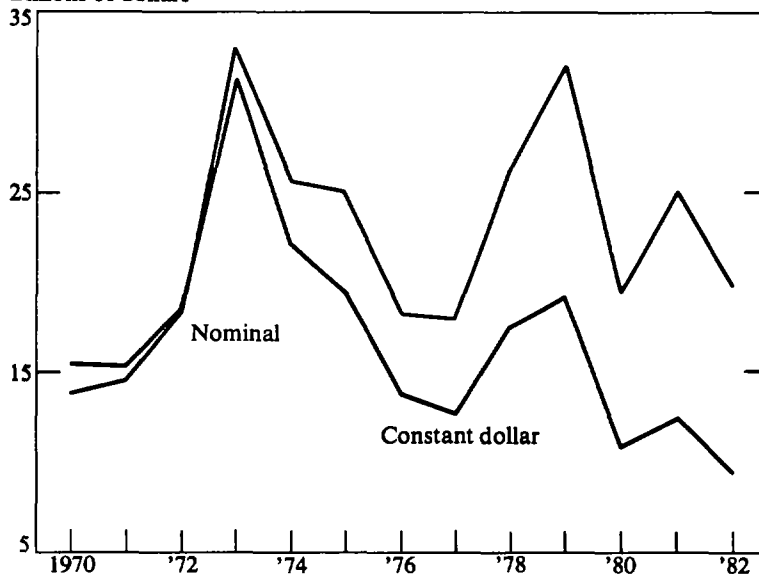


CHART 2
U.S. Balance Sheet of the Farming Sector
(December 31)

Billions of dollars

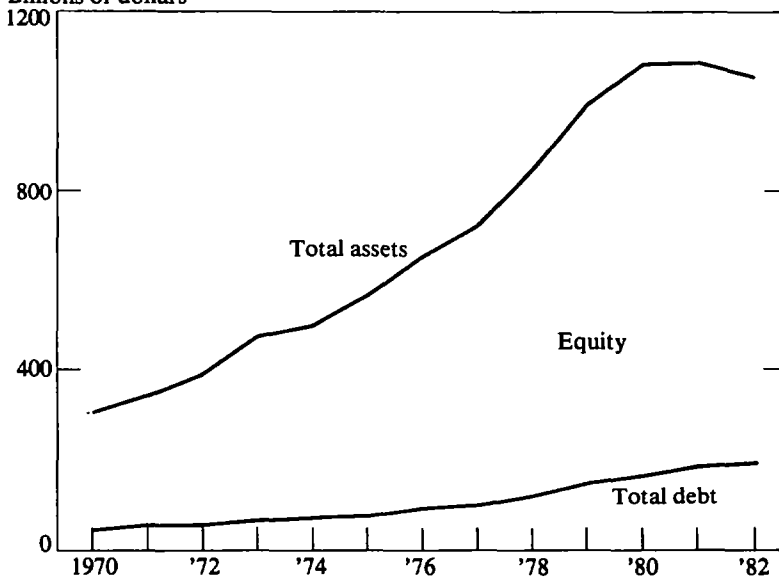
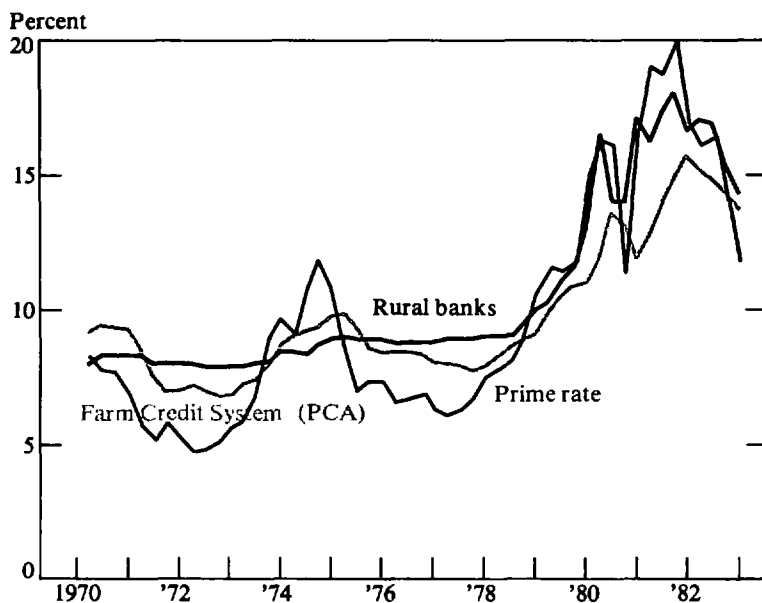


CHART 3
Quarterly Interest Rates of Farm Loans



Farm liquidity

Cash sources of funds in the farming sector—the dollars that flow through farmers' bank accounts—declined nearly 10 percent between 1979 and 1982. The decline in nominal net farm income since 1979 was reflected in the reduced availability of funds, but most of the decline was offset by increases in nonfarm income. More significant in the reduction of cash inflow was a decline in net borrowing. While farm debt increased almost \$27 billion in 1979, it increased less than \$8 billion in 1982.

The most recent recession has created changes in farm cash inflows significantly different from those of the recession in 1976-77. Although incomes cannot be compared directly because of a change in the Census definition of farms, changes in farm debt are available. Net borrowing increased from 1975 to 1977 as rising farm real estate values provided a growing

source of collateral. Total cash inflows also grew in 1976-77, in contrast to their decline during the 1980-82 farm recession.

The recent decline in cash availability has caused farmers to reduce their nonfarm investments and cut back on spending for personal consumption. Decreases in the purchases of farm capital items have accounted for the remainder of the reduction in cash sources of funds.

This combination of the loss of profitability, the decline in equity, and the reduction in cash flow have caused the worst deterioration in the financial condition of farmers in the last decade, if not the last half-century.

Special factors in the current agricultural recession

Many factors have made the agricultural recession of 1980-82 worse than others of recent

years. Although percentage declines in constant dollar farm income were similar in the recessions of 1976-77 and 1980-82, the decline in the recent recession has been from a lower base. The recent downturn has lasted three years instead of two years. Also farmers have been less insulated from the nation's financial turmoil since 1979 than in any other recent period.

In the 1976-77 agricultural recession, farmers had just been through a period of extraordinary profitability and, therefore, were more able to deal with financial adversity. Large increases in farm income in 1973 and 1974 caused by a surge in export demand and the rapid growth in farm real estate values left many farmers with substantial financial reserves. Farm income never returned to its 1973 peak, however. In contrast, 1978 and 1979 can be viewed as years of almost normal profitability when measured in constant dollar terms. They were not years for building the liquid reserves needed to see farmers through the adversities of 1980-82.

The length as well as the depth of the current recession has been a cause of concern to farmers and their lenders. Three consecutive years of low farm incomes is unusual, and even with the government's Payment-In-Kind program, estimates of net farm income for 1983 are little improved over 1982. Recent surveys by Federal Reserve Banks and others suggest that between two and three times the normal number of farmers left the sector in 1982 and more exits are to be expected in 1983.⁴

Interest rates charged by agricultural banks have followed the prime rate more closely since 1979 (Chart 3). As a result, farm interest rates have shown greater volatility, causing large swings in the cost of carrying debt that have contributed to the decline in farm real estate

values. Interest rates rose rapidly to more than 15 percent in the spring of 1980 and again through most of 1981. While interest rates have since declined substantially, inflation has declined even more, leaving the real cost of borrowing still high by historic standards. These developments have caused highly leveraged farmers more difficulties than they might have expected. Many of these difficulties have translated into problem loans that could well be affecting the stability of agricultural lenders.

The financial condition of agricultural banks

In light of the deterioration in farm financial conditions, this section provides an historical analysis of the financial condition of agricultural banks. For purposes here, agricultural banks are defined as banks with at least 25 percent of their yearend loans made to farmers. These loans include both operating loans and loans backed by farm real estate. Income statement information is used in analyzing the profitability of banks, and balance sheet data is used in describing changes in their solvency. Because of the many regulatory changes and other factors besides the farm recession that have affected banks since 1979, changes in agricultural and nonagricultural banks are compared to highlight the effects of agricultural problems.⁵

⁴ See, for example, *Financial Letter*, Federal Reserve Bank of Kansas City, Vol. 9, No. 5, May 25, 1983.

⁵ Average income statements and balance sheets for each bank type were developed from Federal Reserve System Call Reports. The data were averaged to reduce the influence of changes in the number of banks in each category over the years. The data were also adjusted within years to account for bank mergers. Balance sheet information is for the last day of each year and income statements are for stated calendar years. See the Federal Reserve Board of Governors' documentation of the Huge Files as part of their Micro Data Base Documentation for a full description of these data. Comparable data were also developed for

TABLE 1
Average Gross Loan Loss Experience at U.S. Commercial Banks*

Year	Agricultural Banks		Nonagricultural Banks	
	Million Dollars	Percent Increase	Million Dollars	Percent Increase
1970	\$12.5	—	\$142.2	—
1971	13.2	5.6%	159.3	12.0%
1972	12.8	- 3.0	137.1	- 13.9
1973	14.2	10.9	166.1	21.2
1974	19.2	35.2	253.4	52.6
1975	21.0	9.4	394.2	55.6
1976	24.9	18.6	428.9	8.8
1977	25.8	3.6	356.5	- 16.9
1978	29.3	13.6	345.9	- 3.0
1979	31.3	6.8	360.0	4.1
1980	47.4	51.4	460.9	28.0
1981	61.5	29.7	495.6	7.5
1982	103.6	68.5	746.7	50.7

*Data developed from call report data adjusted by the staff of the Board of Governors to reflect mergers and acquisitions. Averages are used to reduce the effect of different numbers of banks in each category over time.

Trends in commercial bank profitability

The most striking indication of the financial difficulties at banks is the rapid rise in loan losses since 1979 (Table 1). Loan losses at agricultural banks tripled between 1979 and 1982, while losses at nonagricultural banks doubled. Until the recent farm recession, loan losses at agricultural banks had increased generally with inflation. Losses at nonagricultural banks were more cyclical, expanding with the 1974-75

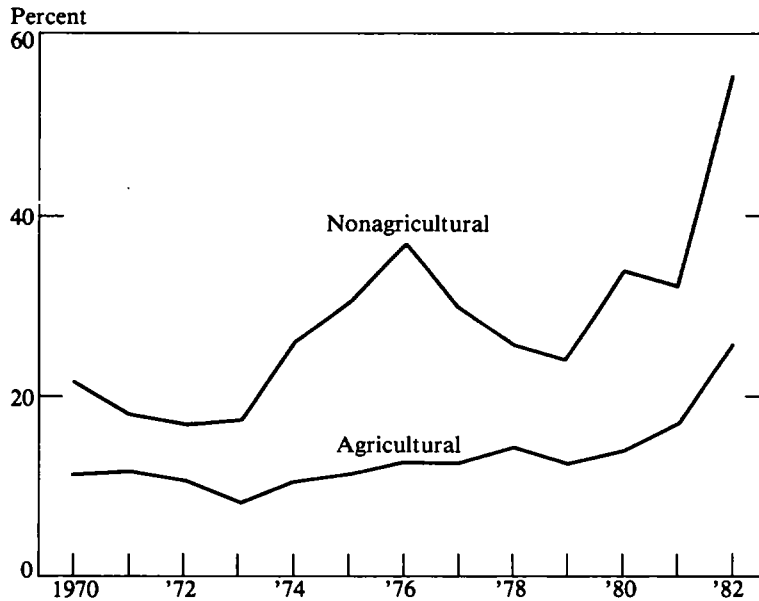
recession and growing rapidly again after 1979.

Banks do not charge current loan losses against income but instead make provisions for losses. If provisions for losses exceed actual losses, banks accumulate a balance sheet reserve for future losses called an allowance for loan losses. If losses exceed the provision for losses in a given year, balance sheet reserves are used to cover the difference, first reducing the allowance for loan losses and eventually decreasing the bank's net worth. Provisions for loan losses tend to be about equal to current losses except in years of surprisingly large actual losses. Gross losses in 1981, for example, exceeded provisions for losses by 13 percent at agricultural banks and 4 percent at nonagricultural banks.

The percentage of income set aside to provide for losses has been smaller and less cyclical at agricultural banks than at nonagricultural banks (Chart 4). Through the 1970s, agricul-

small nonagricultural banks, those with less than \$100 million in assets. For purposes of this research, no substantive differences were found in the financial conditions of small nonagricultural banks and all nonagricultural banks. The results of this work are, therefore, not included in the following discussions. The data are available, however, in the tabular appendix.

CHART 4
Ratio of Provision for Loan Losses to Net Income
Before Provision for Loan Losses at Commercial Banks



tural banks typically set aside about half as much of their income for writing off bad debts as nonagricultural banks. The reason for this disparity is not obvious, since agriculture is usually considered a risky industry. Part of the reason could have been the government's farm financial programs of the period, such as the Farmers Home Administration's economic emergency loan program. Growing infusions of government credit into the sector during the 1970s probably kept loan losses at agricultural banks lower than those at nonagricultural banks.

While a larger proportion of bank income has been needed to cover loan loss provisions at agricultural banks since 1979, the evidence does not suggest that agricultural banks are, on average, in serious trouble. In fact, the proportion of income set aside for loan losses is rising less rapidly at agricultural banks than at nonagricultural banks.

The profitability of agricultural banks, as measured by their return on assets, also suggests that most of them have not had serious difficulties (Chart 5). Their return on assets—the ratio of income after provision for loan losses to total assets—has been greater than that for nonagricultural banks every year since 1970, and the difference has grown. While the decline in return on assets began a year earlier at agricultural banks than at nonagricultural banks, the declines from their peaks have been about the same for both types of banks. The average return on assets at agricultural banks was higher in 1982 than in almost any year in the 1970s.

So, while problems in agriculture have affected the financial condition of agricultural banks, the evidence regarding the profitability of these banks does not seem to indicate a crisis in the stability of banks lending to farmers. Loan losses at agricultural banks have increas-

CHART 5
Return on Assets at Commercial Banks

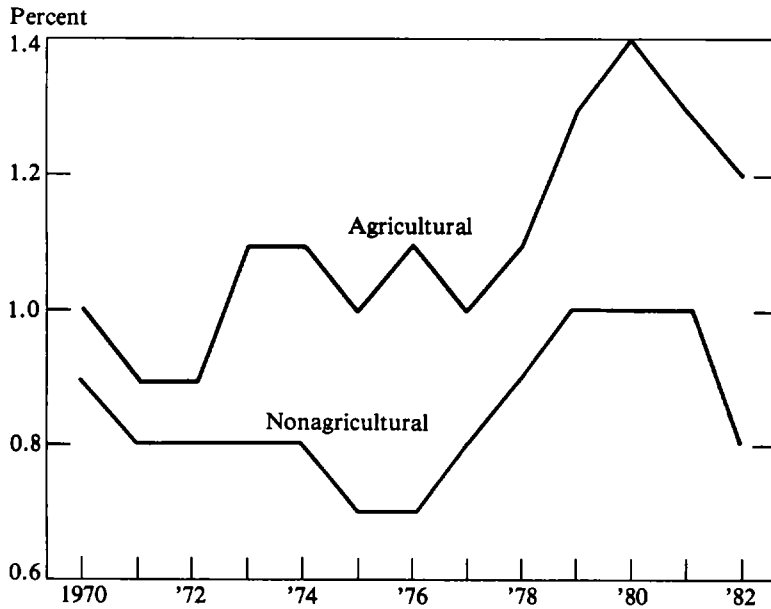


CHART 6
Percentage Growth in Loans at Commercial Banks

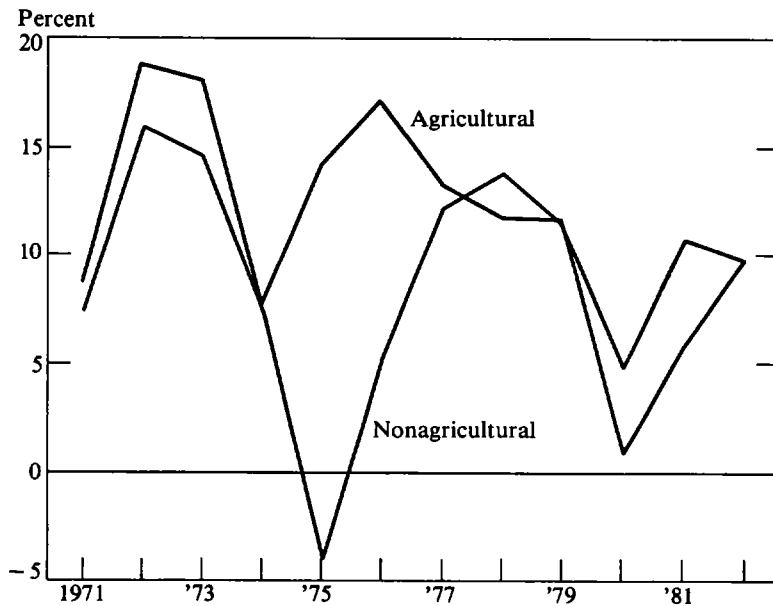
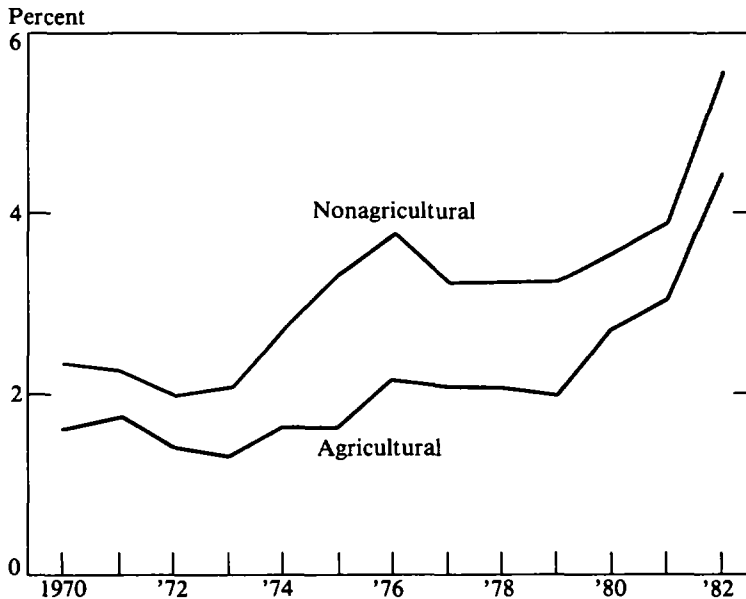


CHART 7
Ratio of Loan Losses to
Total Reserves at Commercial Banks



ed rapidly, but bank income also has grown enough that losses are not overwhelming.

Trends in bank solvency

Loan losses can be put into perspective by comparing them with total loans and the reserves banks can draw on before they fail.

Loan losses have outpaced the average growth in loans at all banks (Chart 6). Loans at agricultural banks were almost four times greater in 1982 than in 1970, but loan losses were almost eight times greater. Loans at nonagricultural banks were almost three times greater in 1982, with loan losses about five times greater. Although the increases in loan losses compared with increases in loans rose much more at agricultural banks, most of the difference came after 1979. As a proportion of total loans, losses in 1979 were about the same as in 1970, at all banks.

If, as it appears, agricultural banks have become more integrated into national markets in recent years—and, therefore, have become more like nonagricultural banks—the recent ratio of loan losses to total loans may be only temporary. A similar rise in loan losses was seen at nonagricultural banks after the general economic recession of 1974-75. Loan losses had begun to decline in nonagricultural banks by 1977, however, and by 1979 the ratio of loan losses to total loans had returned to its 1970 level.

Loan losses relative to reserves—allowances for loan losses plus net worth—have risen faster at agricultural banks than at nonagricultural banks since 1979, but the average agricultural bank is still more capable of absorbing current losses than the average nonagricultural bank (Chart 7). Two factors account for this difference. Agricultural banks have generally been more conservative than nonagricultural banks

in that they entered the 1970s with more reserves relative to losses. They also gained on nonagricultural banks in their ability to cover losses during the decade because they did not experience large increases in loan losses until 1980.

While the agricultural recession of 1980-82 has clearly affected the financial condition of agricultural banks, the impact has been limited so far and there is little to suggest that these banks, on the whole, are in significantly worse condition than other banks. In some ways they are better off. The rapid increase in loan losses at agricultural banks could become a cause for future concern, but through the end of 1982 losses had not severely reduced either the profitability of the average agricultural bank or its solvency. Although individual banks may be having difficulties, agricultural banks as a group do not appear to have more problems than the banking system as a whole.

The financial condition of the farm credit system

Many of the same questions about the financial condition of agricultural banks also apply to the Farm Credit System. Although the system is the largest private lender to agriculture, it is not generally as well known as commercial banks. For that reason, this section begins with a description of some of the system's distinguishing features. The profitability and solvency of the system's components that lend to farmers are then analyzed.⁶

Description of the system

The Farm Credit System (FCS) is a confederation of farmer-owned cooperatives composed of three networks of banks: district-level Federal Intermediate Credit banks (FICB's) and local Production Credit associations

(PCA's); district-level Federal Land banks (FLB's) and local Federal Land Bank associations (FLBA's); and district-level Banks for Cooperatives. In the FICB-PCA network, PCA's make short to intermediate-term loans to finance farmers' variable inputs and machinery. The FLB-FLBA network makes longer term loans backed by farm real estate. The Banks for Cooperatives make loans to farmer-owned input supply, processing, and marketing cooperatives.

All three of these banking networks participate in interlocking loan loss agreements. If losses exceeded specified limits, the loan loss reserves of all the banks could be used to cover losses of any individual bank. Losses are shared first among like associations within a district. If large enough, the losses can then be shared among like banks across districts. Finally, the reserves of the other FCS banks throughout the country can be drawn upon.

All banks in the system are funded jointly by the sale of systemwide bonds in national and international money markets. Until 1978, each of the banking networks sold its own bonds. With the introduction of joint bonds, however, all banks in the system are jointly and severally liable for repayment of the systemwide bonds.

These risk sharing arrangements make analysis of the financial condition of the FCS somewhat less difficult than the analysis for banks, in that aggregate data are more meaningful. While every commercial bank must rely on its own reserves to cover losses, PCA's and FLBA's can call on the reserves of other FCS institutions. Since there are substantial differences in the loan loss histories of the FLB

⁶ Data are in the Reports of Operations for the Federal Land Banks and the Production Credit Association Reports of Operations compiled by the Farm Credit Administration for the years 1970 through 1982.

TABLE 2
Loan Loss Experience Farm Credit System

Year	Production Credit Associations		Federal Land Banks	
	Million Dollars	Percent Increase	Million Dollars	Percent Increase
1970	\$ 7.8	—	0	—
1971	12.5	60.3%	\$0.4	0
1972	6.3	-49.6	0.1	-75.0%
1973	-0.1	—	-0.1	—
1974	5.7	—	0.0	—
1975	20.3	256.1	0.1	0
1976	22.1	8.9	0.1	0
1977	20.4	-7.7	4.4	4300.0
1978	10.7	-47.5	0.9	-79.5
1979	3.8	-64.5	0.5	-44.4
1980	22.4	489.5	0.3	-40.0
1981	44.2	97.3	0.9	200.0
1982	162.0	266.5	1.5	66.7

Data developed from reports of operation for the respective banking systems provided by the Farm Credit Administration.

and PCA networks, however, the following analysis examines the two systems separately.

Analysis of the production credit system is based on aggregates of the profitability and solvency of local PCA's. Consideration of the financial statements of district FICB's would not be appropriate, since these district banks provide funds not only to PCA's but also to other financial institutions. Analysis of the FLB-FLBA network is based on aggregate data of district-level FLB's, which own the farm loans and provide no funds to other organizations. As Banks for Cooperatives do not lend directly to farmers, their financial condition is not analyzed.

Trends in Farm Credit System profitability

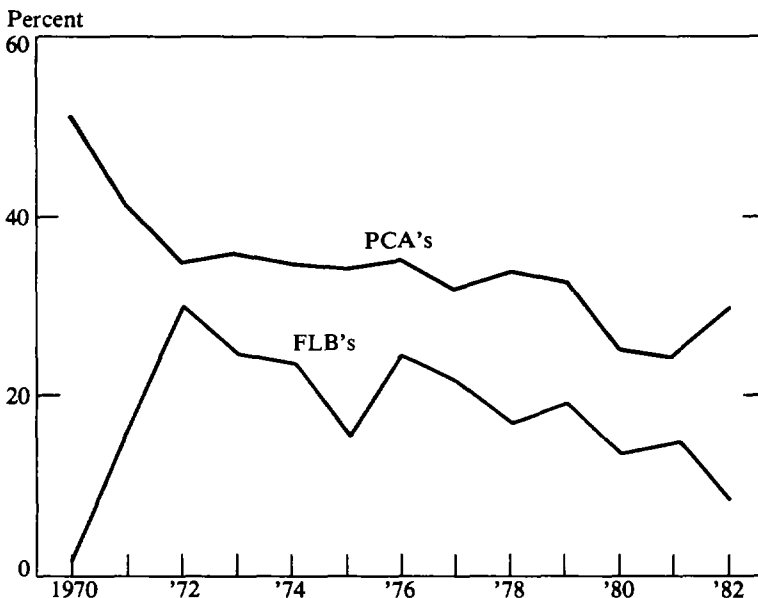
Effects of farm recessions are easily identified by examining FCS loan losses, particular-

ly the losses of the PCA's (Table 2). For example, in the farm recession of 1976-77, the PCA loss rate was about twice the rate in nonrecession years. The first multimillion dollar loss in recent FLB history was in 1977.

The farm recession of 1980-82 has produced much larger losses for PCA's but has not yet had much effect on FLB's. Total PCA losses in 1980-82 were more than for the entire 1970-79 period. Losses for FLB's will probably peak sometime in the future, because farmers delay default on real estate loans as long as possible and the FLB's can postpone recognition of losses on real estate loans until the property is sold, which may take years. The trend to larger FLB losses has already been established, however, and will likely continue until the farm sector recovers.

Provisions for loan losses have increased at PCA's and FLB's since 1970, although the provisions have not kept pace with incomes (Chart

CHART 8
Ratio of Provision for Loan Losses
To Net Income in the Farm Credit System



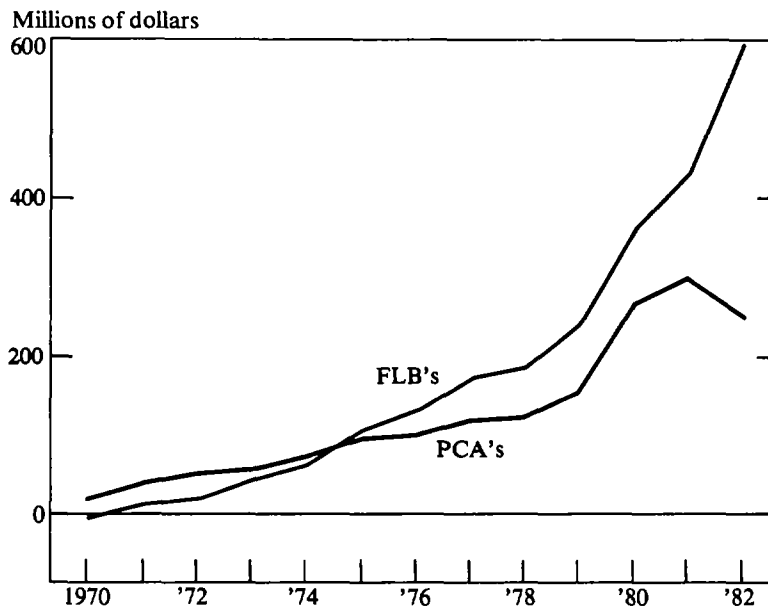
8). Unlike commercial banks, which normally accumulate loan loss reserves based on experience with actual loan losses, FCS reserves are mandated by Congress. The PCA's can charge up to 0.5 percent of their outstanding loans against current income until they have accumulated a maximum reserve of 3.5 percent of loans outstanding. FLB's keep reserves of no less than 1 percent of their outstanding loans, and none of the banks has more than 2 percent of their loans in reserve. In most years, therefore, there has been a large disparity between provisions for loan losses and actual loan losses. Provisions for losses have been more than twice the actual losses at PCA's in all recent years except 1982. Except for 1970, when reserves for losses declined, FLB's annual provisions for loan losses have been 10 to 100 times greater than the net losses actually sustained.

Incomes of PCA's and FLB's are less cyclical than incomes of commercial banks (Chart 9).

Some slowing in income growth in 1977 and 1978 can be discerned, probably as a result of lower interest rates at commercial banks. Because FCS banks base the price of their loans on the average cost of their bonds outstanding, changes in the interest rates they charge tend to lag behind changes in the rates commercial banks charge. When market interest rates are falling, therefore, the FCS is at a competitive disadvantage and they probably reduce their incomes to compensate.

Reductions in income growth can also be seen in 1981 and 1982. In fact, income at PCA's declined in 1982. Net income, however, is not necessarily a good measure of the performance of a cooperative system, where managers typically try to maximize service delivery at minimum cost rather than maximize profits. Income does indicate, however, how much the provision for loan losses could be increased without raising interest rates to borrowers.

CHART 9
Net Income in the Farm Credit System



*Trends in Farm
Credit System solvency*

The FCS grew rapidly in the 1970s (Chart 10). From 1970 to 1982, total loans grew 296 percent at PCA's and 573 percent at FLB's. The growth was not constant, however. Increases in loans slowed during the agricultural recessions of the mid-1970s and early 1980s. From 1970 through 1982, farm loans declined as a proportion of total loans at both PCA's and FLB's. PCA's expanded their loans by increasing loans to farm-related businesses, and FLB's increased their loans for rural housing.

Except for PCA's in 1982, ratios of loan losses to total reserves—allowances for losses plus net worth—show the system has been in a strong position to withstand losses. Annual losses at FLB's never exceeded 0.5 percent of total reserves during the study period from 1970 (Chart 11). Losses at PCA's did not exceed 2

percent of reserves until 1982. In 1982, however, losses of the PCA network amounted to more than 25 percent of their allowance for loan losses.

Thus, if PCA's made no additional provisions for loan losses, their allowance for losses would have been sufficient to cover such losses for only about four years. Additional provisions are made, however. Losses in 1982 exceeded PCA provisions for losses by about \$48 million. At that rate, it would take almost 13 years to exhaust PCA's past accumulations of loan loss reserves, and their equity would still be untouched.

While the farm recession has brought unusually high loan losses in the Farm Credit System, neither the system nor any of its components lending to farmers seem to be in danger. The FLB network shows remarkable strength. Even though most of its losses from the current farm recession may occur in future

CHART 10
Percentage Growth in Loans in the Farm Credit System

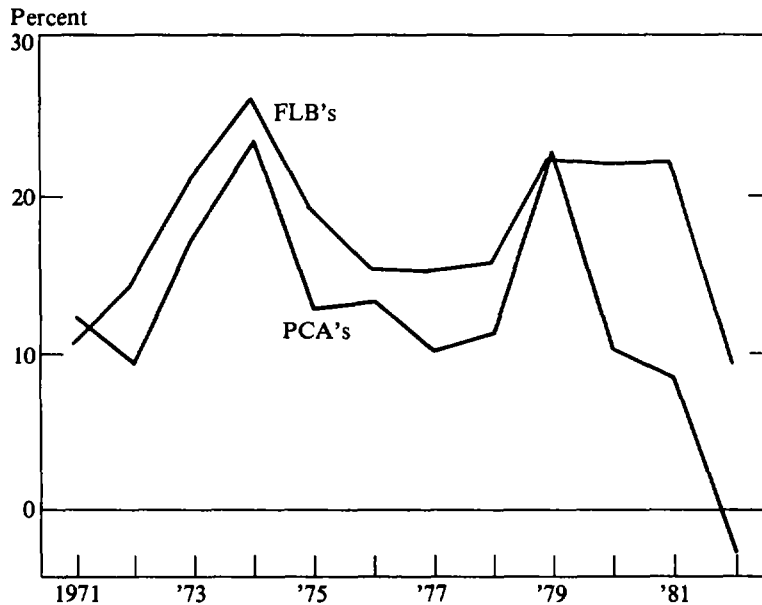
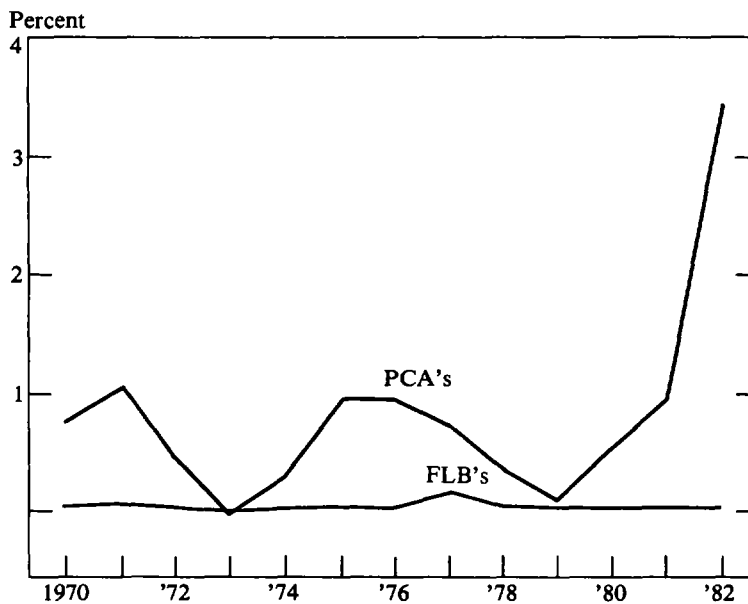


CHART 11
Ratio of Loan Losses to Total Reserves
in the Farm Credit System



years, it is hard to imagine a crisis in farming that would place the integrity of FLB's in jeopardy, and although PCA's have experienced greater losses than FLB's, they also seem secure. Loan loss provisions at PCA's can be increased without generating negative profits. These banks therefore, could remain solvent for more than a decade—even if loan losses exceed provisions for losses every year by as much as they did in 1982.

Conclusions

The current financial condition of private agricultural lenders reflects the farm recession of 1980-82. The problems of agriculture and the financial institutions lending to farmers was found to be worse at the end of 1982 than in the cyclical downturn of 1976-77, due partly to the greater integration of rural financial markets into national money markets and the greater volatility of interest rates since 1979. Loan losses at both agricultural banks and within the Farm Credit System were higher than at any recent time.

The financial condition of agricultural banks, however, has not seriously deteriorated. Both the profitability and solvency of agricultural banks since 1979 compare favorably with previous years and with the performance of nonagricultural banks. The national economic downturn since 1979 has caused loan losses to increase at all categories of banks. Since agricultural banks have, on average, been more conservatively managed than other banks, they may well come through the farm recession with less difficulty than nonagricultural banks. Some agricultural banks are probably facing serious problems, but as a group they do not currently require more concern than the banking system as a whole.

The Farm Credit System also has incurred substantially larger loan losses than at any

other time in the period since 1970. Nevertheless, the system seems capable of absorbing losses with its financial stability unimpaired. Loss sharing agreements in the system provide a backstop for individual components, allowing losses to be spread across large systemwide reserves. Federal Land Banks showed almost no increase in loan losses through 1982. While their losses may still be in the future, it seems unlikely the losses will be large enough to substantially reduce reserves already accumulated. PCA loan losses in 1982 were greater than in recent history, but even at that loss rate, PCA's would not deplete their own reserves for over a decade.

Despite the adverse effects of the farm recession on private agricultural lenders, there is no substantial evidence to support concern over the financial condition of these lenders. Continued monitoring of the financial situation is no doubt justified, since continuation of loan losses at recent rates could eventually create significant problems. The general expectation, however, is that as a result of government farm programs and a recovery in the general economy, the agricultural recession will be brought to an end. At that point, the financial condition of agricultural lenders should begin to improve.

Appendix

The following tables present data used in the preceding article. The tables are included here, because they cover more detail than could be incorporated into the article itself, they contain

information that is not readily available from other sources, and they provide a basis of nationwide comparison for several similar regional projects that are underway.

TABLE 1
Average U.S. Commercial Bank Income Statistics: 1970-82
(Thousands of dollars)

Year	Net Income			Provision for Loan Losses			Actual Loan Losses		
	Ag*	Nonag†	Small Nonag‡	Ag	Nonag	Small Nonag	Ag	Nonag	Small Nonag
1970	\$ 70.2	\$ 549.1	\$174.0	\$ 9.2	\$ 80.0	\$ 27.6	\$ 12.5	\$142.2	\$ 40.8
1971	74.7	580.7	181.0	9.3	97.7	30.2	13.2	159.3	41.9
1972	81.8	612.2	188.5	9.2	107.7	29.7	12.8	137.1	37.3
1973	110.2	681.4	212.8	11.4	135.9	34.8	14.2	166.1	43.0
1974	126.0	709.7	211.0	15.1	242.5	53.4	19.2	253.4	63.6
1975	130.5	710.9	199.8	15.8	377.6	63.0	21.0	394.2	75.6
1976	148.9	755.5	221.9	20.1	377.4	67.9	24.9	428.9	80.3
1977	159.1	846.1	251.8	21.3	326.7	63.5	25.8	356.5	71.8
1978	177.2	1006.9	287.1	27.0	344.1	75.8	29.3	345.9	78.0
1979	223.9	1185.2	325.7	29.5	364.4	78.2	31.3	360.0	82.1
1980	264.0	1267.9	346.2	41.5	424.1	86.6	47.4	460.9	97.2
1981	279.3	1329.8	347.9	54.3	477.5	95.1	61.5	495.6	104.4
1982	285.3	1335.6	338.8	96.2	768.4	135.6	103.6	746.7	143.4

Source: Board of Governors of the Federal Reserve System.

*Agricultural banks have at least 25 percent of their yearend loans made to farmers.

†Nonagricultural banks are all banks with less than 25 percent of their yearend loans made to farmers.

‡Small nonagricultural banks are nonagricultural banks as defined as above, with less than \$100 million in total assets.

TABLE 2

Average U.S. Commercial Bank Balance Sheet Statistics: 1970-82

(Millions of dollars)

Year	Total Assets			Total Loans			Farm Loans		
	Ag*	Nonag†	Small Nonag‡	Ag	Nonag	Small Nonag	Ag	Nonag	Small Nonag
1970	\$ 7.1	\$ 66.1	\$19.3	\$ 3.4	\$34.4	\$ 9.6	\$0.8	\$0.4	\$0.3
1971	7.9	71.6	21.0	3.7	36.9	10.4	0.9	0.5	0.3
1972	9.2	80.5	22.6	4.4	42.7	11.4	1.0	0.5	0.3
1973	10.7	87.8	23.7	5.2	48.9	12.4	1.2	0.6	0.3
1974	11.4	93.7	24.4	5.6	52.3	12.8	1.3	0.6	0.3
1975	12.7	95.0	25.6	6.4	50.2	13.1	1.4	0.6	0.4
1976	13.9	99.3	26.7	7.5	52.7	14.4	1.7	0.7	0.4
1977	15.1	109.9	28.7	8.5	59.0	16.1	1.9	0.8	0.5
1978	16.5	120.7	30.1	9.5	67.0	17.7	2.1	0.9	0.5
1979	18.2	131.9	31.2	10.6	74.6	18.1	2.3	1.0	0.5
1980	20.0	142.7	32.6	10.7	78.1	17.9	2.4	1.0	0.5
1981	22.1	155.5	34.1	11.3	86.3	18.3	2.5	1.0	0.5
1982	24.4	170.9	35.3	12.4	94.6	18.5	2.8	1.1	0.5

Year	Net Worth			Allowance for Loan Losses		
	Ag	Nonag	Small Nonag	Ag	Nonag	Small Nonag
1970	\$0.6	\$ 5.6	\$1.7	\$0.055	\$0.705	\$0.158
1971	0.7	6.0	1.7	0.059	0.703	0.158
1972	0.8	6.5	1.8	0.067	0.737	0.162
1973	0.9	6.9	2.0	0.076	0.811	0.172
1974	1.0	7.4	2.1	0.083	0.878	0.180
1975	1.1	7.8	2.2	0.093	0.882	0.182
1976	1.1	7.6	2.2	0.073	0.612	0.135
1977	1.2	8.2	2.3	0.076	0.651	0.141
1978	1.4	8.8	2.5	0.084	0.740	0.153
1979	1.6	9.6	2.6	0.094	0.853	0.162
1980	1.8	10.5	2.8	0.101	0.925	0.168
1981	2.0	11.4	2.9	0.109	1.045	0.176
1982	2.2	12.3	3.1	0.123	1.194	0.183

Source: Board of Governors of the Federal Reserve System.
 *Agricultural banks have at least 25 percent of their yearend loans made to farmers.
 †Nonagricultural banks are all banks with less than 25 percent of their yearend loans made to farmers.
 ‡Small nonagricultural banks are nonagricultural banks as defined above, with less than \$100 million in total assets.

TABLE 3
Average U.S. Commercial Bank Ratios: 1970-82
 (Percent)

Year	Loans/Assets			Farm Loans/Total Loans			Loan Losses/Allowance for Loan Losses		
	Ag*	Nonag†	Small Nonag‡	Ag	Nonag	Small Nonag	Ag	Nonag	Small Nonag
1970	46.8%	48.8%	48.5%	50.4%	6.9%	7.3%	57.6%	16.6%	98.1%
1971	46.2	48.6	48.3	50.7	6.7	7.2	62.5	104.5	110.2
1972	45.5	49.7	49.5	49.8	6.6	7.0	47.1	70.7	75.9
1973	46.0	50.9	50.5	49.7	6.4	6.9	60.4	96.8	105.4
1974	47.2	51.3	51.0	49.1	6.2	6.7	43.6	132.1	143.7
1975	48.3	50.7	50.6	49.3	6.2	6.7	65.0	113.5	122.4
1976	52.2	53.6	53.7	48.7	6.1	6.6	87.7	191.3	209.2
1977	54.3	55.9	56.1	48.2	6.1	6.7	78.8	135.5	149.1
1978	55.9	58.4	58.6	47.7	6.1	6.7	61.6	105.5	115.7
1979	56.7	57.3	57.3	47.9	6.0	6.6	49.9	92.8	102.0
1980	52.0	54.2	54.1	47.9	5.9	6.5	71.9	91.4	99.4
1981	49.8	52.9	52.7	47.8	5.6	6.3	84.0	103.1	114.8
1982	49.7	52.1	51.9	54.6	5.5	6.3	146.7	290.4	144.0

Source: Board of Governors of the Federal Reserve System.

*Agricultural banks have at least 25 percent of their yearend loans made to farmers.

†Nonagricultural banks are all banks with less than 25 percent of their yearend loans made to farmers.

‡Small nonagricultural banks are nonagricultural banks as defined above, with less than \$100 million in total assets.

TABLE 4
Farm Credit System Income Statistics: 1970-82
 (Millions of dollars)

Year	Net Income		Provision for Loan Losses		Net Loan Losses	
	PCA*	FLB†	PCA	FLB	PCA	FLB
1970	\$ 23.7	-\$ 9.7	\$ 25.2	-\$ 0.2	\$ 7.8	\$0.0
1971	45.0	12.3	31.8	2.4	12.5	0.4
1972	56.9	24.1	31.0	10.4	6.3	0.1
1973	63.4	49.4	36.1	16.4	-0.1	-0.1
1974	80.4	66.0	43.8	20.7	5.7	0.0
1975	102.1	113.3	54.6	21.4	20.3	0.1
1976	110.2	138.8	61.3	45.6	22.1	0.1
1977	129.1	178.7	63.3	49.7	20.4	4.4
1978	132.2	189.5	69.5	39.2	10.7	0.9
1979	160.5	247.8	81.9	58.7	3.8	0.5
1980	276.1	367.7	96.6	60.5	22.4	0.3
1981	308.6	435.5	101.5	76.9	44.2	0.9
1982	260.9	597.6	114.3	59.3	162.0	1.5

Source: Farm Credit Administration.

*PCA represents national totals of the operations of all Production Credit Associations.

†FLB represents national totals of the operations of the Federal Land Banks.

TABLE 5

Farm Credit System Balance Sheet Statistics and Ratios: 1970-82

(Billions of dollars)

Year	Total Assets		Total Loans		Farm Loans		Net Worth		Allowance For Loan Losses	
	PCA	FLB	PCA*	FLB†	PCA	FLB	PCA	FLB	PCA	FLB
1970	\$ 5.8	\$ 7.6	\$ 5.6	\$ 7.4	\$ 5.3	\$ 7.1	\$ 0.9	\$ 0.8	0.1	0.1
1971	6.6	8.3	6.3	8.2	6.1	7.9	1.0	0.9	0.2	0.1
1972	7.2	9.5	6.9	9.4	6.6	9.1	1.1	0.9	0.2	0.1
1973	8.5	11.6	8.1	11.4	7.8	10.9	1.3	1.1	0.2	0.1
1974	10.4	14.5	10.0	14.4	9.5	13.4	1.6	1.3	0.3	0.2
1975	11.8	17.4	11.3	17.2	10.7	16.0	1.8	1.6	0.3	0.2
1976	13.3	20.0	12.8	19.9	12.2	18.5	2.0	1.9	0.3	0.3
1977	14.8	23.2	14.1	23.0	13.4	21.4	2.3	2.2	0.4	0.3
1978	16.4	26.9	15.7	26.7	14.9	24.6	2.6	2.6	0.5	0.4
1979	20.0	33.3	19.3	32.7	18.0	29.6	3.0	3.1	0.5	0.5
1980	22.2	41.0	21.3	40.0	19.6	35.9	3.5	3.8	0.6	0.5
1981	24.3	50.0	23.1	49.0	21.0	43.6	3.9	4.7	0.7	0.6
1982	23.8	54.7	22.2	53.7	20.1	47.8	4.1	5.5	0.6	0.7

(Percent)

Year	Loans/Assets		Farm Loans/ Total Loans		Allowance For Loan Losses	
	PCA	FLB	PCA	FLB	PCA	FLB
1970	95.3%	97.7%	95.2%	96.4%	5.2%	0.0%
1971	95.6	98.1	95.7	96.4	7.5	0.3
1972	95.8	98.5	96.1	96.2	3.3	0.1
1973	96.2	98.5	96.1	95.4	0.0	0.0
1974	96.3	98.6	95.0	93.3	2.1	0.0
1975	95.9	99.0	95.0	92.8	6.7	0.0
1976	95.9	99.4	95.0	92.7	6.4	0.0
1977	95.8	99.4	95.0	92.8	5.2	1.3
1978	95.8	99.1	94.5	92.3	2.4	0.2
1979	96.3	98.2	93.5	90.8	0.7	0.1
1980	95.8	97.4	92.1	89.8	3.7	0.1
1981	95.2	98.0	90.8	88.9	6.7	0.1
1982	93.6	98.3	90.5	89.0	26.5	0.2

Source: Farm Credit Administration.

*PCA represents national totals of the operations of all Production Credit Associations.

†FLB represents national totals of the operations of the Federal Land Banks.

Monetary Policy Issues in the 1980s

As an outgrowth of the recent and prospective complications in monetary policymaking, the Federal Reserve Bank of Kansas City sponsored a symposium on "Monetary Policy Issues in the 1980s," held at Jackson Hole, Wyoming, on August 9 and 10, 1982. The 271-page proceedings of this symposium, the contents of which are listed below, include papers and comments by a number of leading academicians and central bankers.

Formulating Monetary Policy in the 1980s

Introductory Remarks, *Ronald L. Teigen*

Issues in the Coordination of Monetary and Fiscal Policies, *Alan S. Blinder*

Discussion, *William Poole*

Discussion, *James Tobin*

The Role of Expectations in the Choice of Monetary Policy, *John B. Taylor*

Discussion, *Phillip Cagan*

Discussion, *Frederic S. Mishkin*

Discussion, *Robert J. Gordon*

The Effect of U.S. Policies on Foreign Countries: The Case of Canada, *Charles Freedman*

Discussion, *Herman-Josef Dudler*

Discussion, *Richard N. Cooper*

Implementing Monetary Policy in the 1980s

Introductory Remarks, *Donald D. Hester*

The Effect of Alternative Operating Procedures on Economic and Financial Relationships, *Carl E. Walsh*

Discussion, *Bennett T. McCallum*

Discussion, *James L. Pierce*

Selecting Monetary Targets in a Changing Financial Environment, *Edward J. Kane*

Discussion, *Robert H. Rasche*

Discussion, *Raymond E. Lombra*

Using a Credit Aggregate Target to Implement Monetary Policy in the Financial Environment of the Future, *Benjamin M. Friedman*

Discussion, *Allan H. Meltzer*

Discussion, *Richard G. Davis*

To obtain a free copy of the proceedings of this symposium, or any of the previous symposiums listed below, write to the Public Affairs Department, Federal Reserve Bank of Kansas City, 925 Grand Avenue, Kansas City, Missouri 64198.

*World Agricultural Trade:
The Potential for Growth, 1978*

*Western Water Resources: Coming Problems
and the Policy Alternatives, 1979*

*Future Sources of Loanable
Funds for Agricultural Banks, 1980*

*Modeling Agriculture
for Policy Analysis in the 1980s, 1981*

Recent Developments at Banks and Nonbank Depository Institutions

By Daniel J. Vrabac

The methods used by financial intermediaries to channel funds from savers to borrowers have been affected significantly in recent years by inflation, fluctuations in interest rates, two recessions, and the ongoing deregulation of depository institutions. During this time, the banking industry has shown itself capable of adapting to an increasingly uncertain and complex operating environment. This article describes developments in the industry that allowed it to achieve reasonable success despite the generally unfavorable economic environment.

The article first reviews the economic environment of the past several years, with particular emphasis on the 1979-82 period. Against this backdrop, the changes in commercial bank deposits, earning assets, and profitability are discussed. These changes are then compared with changes that have occurred at thrift institutions. The article concludes by discussing some possible explanations for the relatively better performance of banks, and then examines the outlook for banks and thrifts.

Daniel J. Vrabac was a research associate with the Economic Research Department at the Federal Reserve Bank of Kansas City when this article was written. The author wishes to thank Karlyn Mitchell for her helpful comments during preparation of the article.

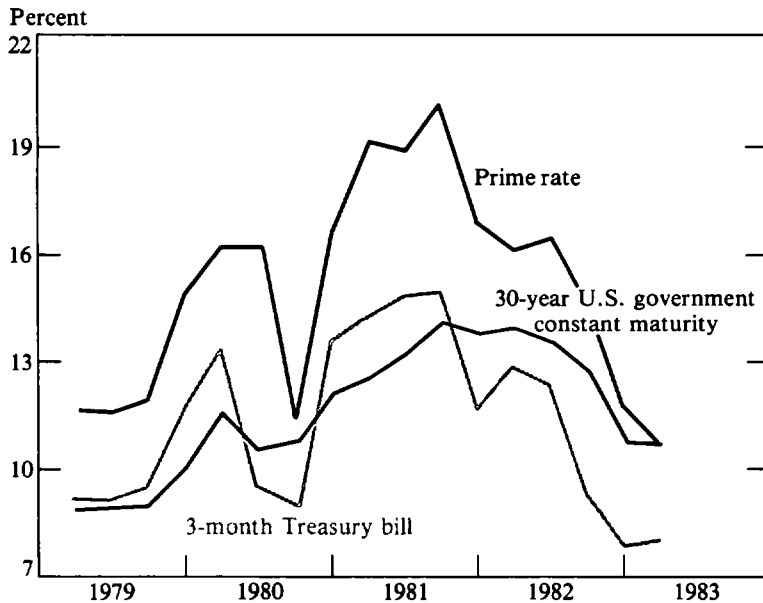
The environment

The financial environment that affected the strategies of all depository institutions during 1979-82 was shaped primarily by macroeconomic conditions, monetary policy, and the deregulation of depository institutions.

Macroeconomic conditions

The turbulent 1979-82 period was characterized by recession, double-digit inflation, and high and volatile interest rates. January 1980 and July 1981 marked the beginnings of the seventh and eighth recessions since World War II. The first was the shortest recession in the postwar era, while the second was much longer and more severe. Adjusted for inflation, GNP did not grow at all between 1979 and 1982. Industrial production increased only slightly and at times declined. Inflation, which reached 13.3 percent in 1979 after the second OPEC price shock, averaged 9.6 percent for the period as a whole. Interest rates, which tend to decline during recessions and rise with expectations of higher inflation, fluctuated widely between 1979 and 1982. As Chart 1 shows, interest rates declined sharply in the second quarter of 1980 following the onset of the recession. The economy recovered quickly, however,

CHART 1
Selected Interest Rates



and by the fourth quarter of 1980 interest rates had climbed above their prerecession peaks, where they remained at double-digit levels until the third quarter of 1982. Deepening recession and lower expected inflation then combined to bring interest rates back to somewhat more normal levels.

The turbulence of this four-year period stands in marked contrast to the previous four years when economic conditions were generally more stable. The economy turned upward after the severe recession of 1973-75 and the impact of the first OPEC oil price shock was absorbed. Industrial production increased at an annual average rate of nearly 7.5 percent in the 1975-78 period as long-term borrowing for durable good purchases and capital expenditures increased. Inflation averaged less than 7 percent a year, while short-term Treasury rates averaged 5.8 percent and long-term Treasury rates averaged 8.1 percent.

Monetary policy

Throughout most of the 1979-82 period, monetary policy sought to achieve a reduction in inflation. To meet this objective, the Federal Reserve switched its operating procedure in October 1979 from targeting short-term interest rates to targeting reserves. Controlling reserves to gradually reduce the growth of the monetary and credit aggregates, it was reasoned, would lead to a reduction in inflation. The new operating procedures facilitated better monetary control, and by mid-1982 there was a substantial lowering of inflation.

The new operating procedure, however, lent an element of uncertainty to the financial environment. Under the old procedure, the Federal Reserve influenced market interest rates by limiting movements in the federal funds rate. Stability of the federal funds rate, in turn, led to stability in both short and long-term interest

TABLE 1
Regulatory Developments

1972	NOW accounts were authorized for thrift institutions in Massachusetts. In the next few years, all New England thrifts were allowed to issue NOWs.
1973	The wild card experiment: The first use of ceiling-free, small denomination certificates of deposit. The certificate had a minimum maturity of four years; the experiment lasted four months. All depository institutions were allowed to participate.
1975	California state-chartered savings and loans were authorized to issue variable-rate mortgages. At the same time, a few national banks in California began to issue variable-rate mortgages.
1978	6-month money market certificates were authorized nationally for all depository institutions. California federally-chartered savings and loans were authorized to issue variable-rate mortgages.
1980	Authorization of the 2 1/2-year small saver certificate for all depository institutions. Passage of the DIDMCA: Extension of reserve requirements to all depository institutions. Creation of the DIDC. Allowed thrifts to invest 20 percent of assets in consumer loans. Allowed mutual savings banks to make business loans and accept business deposits.
1981	Introduction of nationwide NOW accounts. Introduction of the ceiling-free Individual Retirement Account. Introduction of the tax-exempt All Savers certificate of deposit.
1982	Several new accounts paying market-related rates were introduced: 91-day money market certificate 3 1/2-year ceiling-free deposit. 7-to-31 day time deposit. Passage of the Garn-St. Germain Act: Capital assistance for ailing thrifts. Authorization of the money market deposit account. Increase allowable consumer loan percentage at thrifts to 30 percent. Authorized savings and loans to issue business loans and accept business deposits.
1983	Introduction of the Super NOW accounts. Lowering of minimum deposit on short-term certificates of deposit to \$2,500. Elimination of ceiling rates on remaining time deposits.

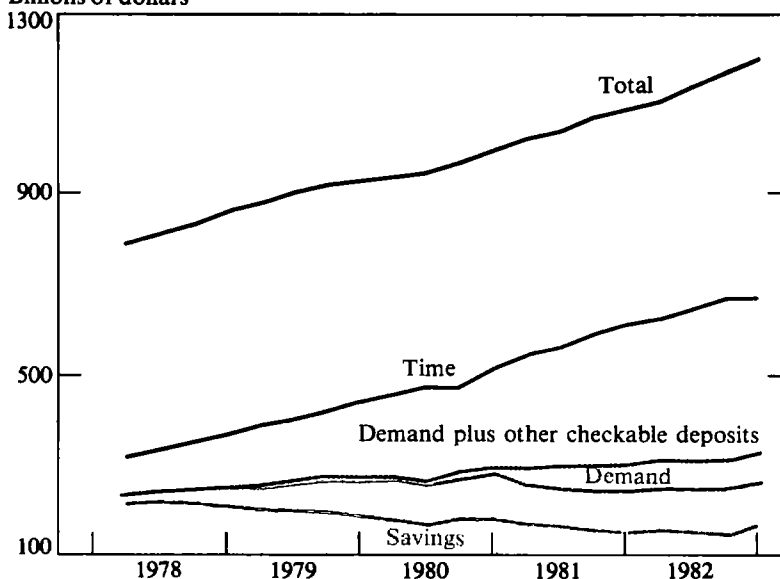
rates and to more certainty in financial markets. Under the new procedure, close control of reserves can lead to wide shifts in interest rates. Greater volatility in interest rates, in turn, complicates the management of asset and liability portfolios for depository institutions by making future rates of return on financial assets less predictable.

Deregulation

Commercial banks traditionally have been the primary suppliers of short- and medium-term credit to businesses, while thrift institutions have been the primary suppliers of long-term housing credit to consumers. This specialization worked well when prices were stable,

CHART 2
Deposit Growth at Commercial Banks

Billions of dollars



yield curves were upward sloping, and the economy was growing. The turbulence of the 1970s, however, revealed the weaknesses of such specialized institutions. The need for change in financial institutions was first put forth by the Commission on Money and Credit and by the Heller Committee in the early 1960s, followed by the Hunt Commission report in the early 1970s, and the Financial Institutions Act (FIA) of 1975. Few changes were made, however, until passage of the Depository Institutions Deregulation and Monetary Control Act (DIDMCA) in 1980. The DIDMCA included many of the provisions first recommended by the Hunt Commission and the FIA. Table 1 provides a brief history of deregulatory actions.

The DIDMCA altered the competitive balance between depository institutions by changing the rules of the game for all institutions. First, reserve requirements, previously imposed only on banks that were members of the

Federal Reserve System, were imposed on all institutions accepting deposits. Reserve ratios for member banks were to be gradually reduced while ratios for other depository institutions were to be increased until reserve ratios at all institutions were equal. By imposing uniform reserve requirements on all depository institutions, the Act removed the penalty member banks pay by having to keep more of their assets in noninterest-earning reserves.

The Act also called for the gradual phasing out of interest-rate ceilings on deposits and the creation of the Depository Institutions Deregulation Committee (DIDC) to oversee the phaseout. The committee was charged with administering differences between banks and thrifts, determining the rates that could be paid on existing accounts, and establishing new types of accounts.

To help prop up the ailing thrift industry, the DIDMCA gave thrifts broader asset powers.

TABLE 2
Composition of Deposits
At Commercial Banks

	End of Year Holdings as a Percent of Total Deposits			Average Annual Growth Rates	
	1974	1978	1982	1975-78	1979-82
Demand Deposits	34.4	30.9	22.7	6.3	0.7
Demand and Other Checkables	34.4	31.5	29.3	6.8	6.7
Savings Deposits	22.1	24.6	15.4	12.5	(2.4)
Time Deposits	43.5	43.9	55.3	9.7	15.2
Large Time	23.6	22.8	24.1	9.8	10.2
Small Time	19.9	21.1	31.2	10.8	20.1
Total Deposits	100.0	100.0	100.0	9.2	8.7

Note: Demand deposits include overnight RP's.
Savings deposits include money market deposit accounts.
Large time deposits include term RP's.
Other checkables, overnight RP's, term RP's, and MMDA's are not seasonally adjusted.

They were authorized to invest up to 20 percent of their assets in consumer loans, commercial paper, and corporate debt securities. Mutual savings banks could make business loans up to 5 percent of their assets and accept business deposits.

The Garn-St. Germain Act passed in the fall of 1982 further broadened the asset powers of thrifts. Authorization to make business loans and accept business deposits was extended to savings and loans. Beginning in 1984, thrifts can increase business loans from 5 percent of assets to 10 percent. The percentage of consumer loans allowed at thrift institutions was increased from 20 percent of assets to 30 percent. Most important, the Act authorized a new deposit account at banks and thrifts, the money market deposit account, to compete with the money market mutual funds.

The banking industry

Against the background of turbulent financial developments, a number of important

changes took place in commercial bank deposits, earning assets, and profits during the 1979-82 period. Moreover, the comparative performance of banks and other depository institutions varied widely.

Deposits at commercial banks

Total deposits at commercial banks grew from \$870 billion at the end of 1978 to \$1,210 billion at the end of 1982 (Chart 2), an average annual increase of 8.7 percent.¹ Although less than the 9.2 percent average increase for 1975-78, deposit growth held up remarkably well considering the volatility of the economic environment. As interest rates began rising in 1978, commercial banks faced tremendous

¹ Total deposits include demand deposits, other checkable deposits, overnight repurchase agreements, term repurchase agreements, regular savings accounts, small time deposits, large time deposits, and money market deposit accounts.

TABLE 3
Deposit Growth At Commercial
Banks and Thrift Institutions
 (Four-year average annual growth rates)

	Total Depository Institutions	Commercial Banks	Thrift Institutions
1975-78			
Total Deposits	11.0	9.2	13.8
1979-82			
Total Deposits	7.6	8.7	6.0
Demand and Other Checkables	8.1	6.7	69.5
Savings Deposits	(3.7)	(2.4)	(4.8)
Time Deposits	13.6	15.2	11.8
Large Time	14.0	10.2	40.0
Small Time	13.5	20.1	9.3

Note: Demand and other checkables at commercial banks includes overnight RP's. Savings deposits for banks and thrifts include MMDA's. Large time deposits for banks and thrifts include term RP's.

competition for deposit funds from nondepository institutions, especially money market mutual funds. The competition centered on savings and demand deposits, traditionally the main sources of funds at commercial banks. That total deposit growth slowed as little as it did between 1979 and 1982 is due partly to banks having restructured their deposits. Banks came to depend less on demand and savings deposits and more on time deposits paying market-related interest rates. Changes in the composition of bank deposits can be seen in Table 2.

Because interest rates were comparatively low in the 1975-78 period, holders of demand deposits were not penalized unduly for keeping their transactions balances in noninterest-bearing demand accounts. Also, since the max-

imum rate allowed on fixed-ceiling passbook savings accounts was similar to the yields on other financial assets, savers had little incentive to withdraw funds from insured accounts. This situation changed dramatically beginning in 1979, as interest rates rose generally and short-term rates climbed above long-term rates. As a result, depositors began to keep transactions balances in noninterest-bearing demand deposits to a minimum, and growth in demand deposits was brought to a halt. In addition, money either flowed out of savings deposits into higher yielding time deposits, or flowed out of banks entirely into money market mutual funds. The growth of demand and savings deposits was further affected after 1981 by the nationwide introduction of NOW accounts which, by combining the most important features of demand and savings deposits into one account, attracted funds away from both types of deposits.

Time deposits became the main source of deposit growth at commercial banks in the 1979-82 period.² As savings deposits declined, growth in time deposits increased, especially time deposits with variable ceilings. Large time deposits, which has become a fairly stable source of deposit funds in the early 1970s, continued to grow at about the same pace into the 1980s. Most of the growth in time deposits came from the proliferation of small time deposits, which increased in both amount and number.³ Small time deposits grew from the

² Growth in time deposits was due entirely to growth in variable-ceiling certificates. Fixed-ceiling certificates declined as a percentage of small time deposits from 100 percent at the end of 1977 to 12 percent at the end of 1982.

³ The 6-month money market certificate was the only variable-ceiling account at the end of 1978. It then accounted for less than 3 percent of all deposits. By the end of 1982, there were nine such accounts and many of them offered both fixed and variable rates.

least important source of funds at the end of 1978 to the most important source at the end of 1982. They also grew nearly twice as fast as any other deposit category (Table 2).

The two accounts responsible for the growth in small time deposits were the 6-month money market certificate and the 2 1/2-year small saver certificate. The 6-month CD, introduced in June 1978, increased to \$220 billion by the end of 1982. The 2 1/2-year CD, introduced in January 1980, increased to \$87 billion by the end of 1982. Together, these two accounts represented 25 percent of total deposits at the end of 1982 and 77 percent of small time deposits at commercial banks. The introduction of these CD's gave banks and thrift institutions an account that savers could use in shifting funds from lower yielding fixed-ceiling accounts, and thus prevented disintermediation and its costly effects.

Deposit comparison of depository institutions

Although the growth rate of deposits at commercial banks totaled only slightly less in 1979-82 than in 1975-78, the growth rate of deposits at thrift institutions was less than half what it had been in the previous period (Table 3). In the earlier period, when interest rates were generally lower and more stable, savings deposits were the most important source of deposit growth at all depository institutions. But as interest rates went higher and became more volatile, savers began seeking higher returns. All depository institutions lost savings deposits in 1979-82, but the effect on total deposit growth was greater at thrifts than at banks because thrifts depended on savings deposits more than banks.

As savings deposits declined, time deposits became the most important source of funds for banks and thrifts. Time deposits grew at an an-

nual average rate of less than 12 percent at thrifts, compared with more than 15 percent at banks. While large time deposits at commercial banks grew at about the same rate in both periods, the growth of these deposits at thrifts was sizable in the second period. Even so, large time deposits accounted for less than 10 percent of deposits at thrifts by the end of 1982.

The competition for funds between banks and thrifts in 1979-82 centered mainly on small time deposits and, to a less extent, on savings deposits. Banks fared well in the competition. Where banks had held about 40 percent of the small time and savings deposits at the end of 1978, they held 45 percent at the end of 1982 (Chart 3). Small time deposits grew at an annual average rate of over 20 percent at banks, compared with less than 9 percent at thrifts. Although banks and thrifts both lost savings deposits, the decline at banks was only half as rapidly at thrifts, with the result that banks increased their share of the market.

Earning assets at commercial banks

Earning assets at commercial banks grew from \$1,000 billion at the end of 1978 to \$1,400 billion at the end of 1982 (Chart 4), an average annual growth of 8.7 percent compared with 9.7 percent in 1975-78. This slower growth in assets reflected the slower growth in deposits.

All categories of bank assets increased between 1979 and 1982, but the rates of increase were not uniform and they differed from the rates in the 1975-78 period (Table 4). Loan growth between 1975 and 1978 was greatest in consumer loans and real estate loans for housing.⁴ The relative importance of these two

⁴ Real estate loans with a consumer orientation are loans on one- to four-unit family housing, which had average annual growth during the 1975-78 and 1979-82 periods of 14.9 percent and 8.3 percent, respectively.

CHART 3
Market Share of Savings and Small Time Deposits
At Commercial Banks and Thrift Institutions

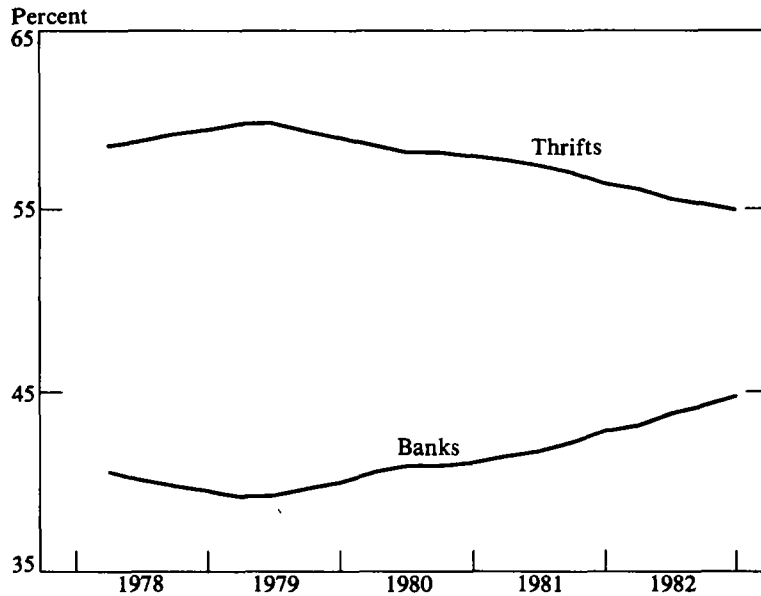


CHART 4
Earning Asset Growth At Commercial Banks
(Seasonally Adjusted)

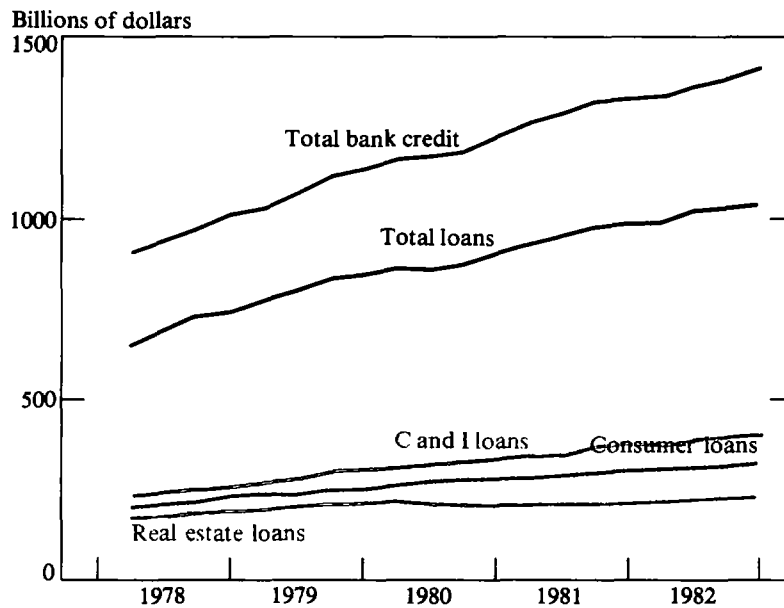


TABLE 4
Distribution of Earning Assets at Commercial Banks

	End of Year Holdings as a Percent of Total Assets			Average Annual Growth Rates	
	1974	1978	1982	1975-78	1979-82
Total Loans	72.9	73.7	73.8	9.7	8.7
Commercial and Industrial	27.6	24.3	27.8	6.0	12.5
Consumer	14.4	16.2	13.6	12.8	4.0
Real Estate	18.2	20.8	21.5	12.9	9.6
All Other	12.7	12.4	11.0	8.8	5.3
Investments	27.1	26.3	26.2	8.5	8.6
U.S. Treasuries	7.5	9.3	9.3	17.2	9.0
Other	19.6	17.0	16.9	5.5	8.5
Total Earning Assets	100.0	100.0	100.0	9.2	8.7

categories increased as the proportion of commercial and industrial loans declined. The situation was reversed in the 1979-82 period, however, as growth in consumer-oriented loans declined significantly and growth of commercial and industrial loans increased.

The composition of earning assets shifted as banks adjusted the distribution of their portfolios in response to the changing economic environment. Household incomes rose during the 1975-78 economic upswing and consumers became more willing to incur debt. As a result, consumer borrowing at banks increased. With interest rates relatively low, nonfinancial business firms preferred to borrow in long-term capital markets instead of taking short-term loans from banks. The result was an increase in the relative importance of consumer-oriented loans in banks' portfolios. Over the next four years, however, household incomes declined and, with substantially higher interest rates, demand for consumer loans declined. Growth in real estate loans dropped to 10 percent a year as loans for one to four-family housing declined. The recessionary environment and rising interest rates also reduced corporate cash flow and profitability, causing nonfinancial cor-

porations to rely more on bank loans. Part of the increase in bank loans to business was to finance unwanted inventories, but nonfinancial corporations also were reluctant to issue bonds at double-digit interest rates, preferring instead to borrow short term from banks until interest rates declined.

Earning asset comparison of depository institutions

Earning assets grew significantly faster at commercial banks than at thrift institutions during the 1979-82 period (Tables 4 and 5). The difference represented a reversal from the previous four years, when earning assets grew faster at thrifts than at banks.

The divergence was due to changes in the composition of assets. Regulations allowed banks to make a greater variety of loans than thrift institutions. The effect of the restrictions on thrifts can be seen from a comparison of the composition of earning assets at banks and thrifts. Over the whole period from 1975 through 1982, banks as a group never held more than 28 percent of their assets in any one type of loan or security. In the same period,

TABLE 5
Distribution of Earning Assets
At Savings and Loans and Mutual Savings Banks

	End of Year Holdings as a Percent of Total Assets			Average Annual Growth Rates	
	1974	1978	1982	1975-78	1979-82
Savings and Loans					
Mortgage Loans	87.1	85.0	73.9	14.9	3.0
Mortgage-Backed Securities	2.0	3.2	9.7	31.5	42.4
Nonmortgage Loans	2.0	2.3	3.6	19.3	20.1
Cash and Investments	8.9	9.5	12.8	17.7	15.1
Total Earning Assets	100.0	100.0	100.0	15.6	6.5
Mutual Savings Banks					
Mortgage Loans	70.1	61.8	56.7	6.2	-0.1
Mortgage-Backed Securities	2.1	6.5	8.5	46.8	9.4
Nonmortgage Loans	3.6	4.7	10.1	17.5	23.9
Cash and Investments	24.3	27.0	24.7	13.0	-0.2
Total Earning Assets	100.0	100.0	100.0	9.6	2.0

thrifts as a group held over 65 percent of their assets in mortgage loans and mortgage-backed securities. As consumer mortgage lending waned in 1979-82, the traditional lending base of thrifts was eroded. And as mortgage loan demand declined, funds deposited at thrifts had to be invested in lower yielding securities. In contrast, banks were able to respond to the change in loan demand by diverting funds from mortgages and consumer loans to short-term business loans.

Profitability comparison of depository institutions

Banks have been substantially more profitable than thrifts since 1979. The differences in profitability can be seen by a comparison of the returns on assets (ROA) at banks and thrifts (Table 6). Return on assets is defined as net income for a year expressed as a percentage of average assets for the year. Profitability was

about the same at banks and at thrifts in the 1975-78 period, and bank profitability remained about the same through 1982. At thrifts, however, ROA declined sharply after 1979 and then turned negative.

One reason banks were more profitable after 1979 is that their loans were shorter term. Because thrifts had concentrated their lending on long-term mortgages, only a small percentage of their loans matured during an accounting period. And as most of these loans were made at fixed rates, an unexpected rise in interest rates caused a significant proportion of the assets of thrifts to earn below-market rates.

The shorter terms of bank loans caused a much larger percentage of their loans to mature during a given period. Many bank loans also were made at floating rates. Following a rise in interest rates, banks were able to adjust loan rates closer to the current market rate. The result was that bank profitability was affected less by unexpected changes in interest rates.

TABLE 6
Profitability Comparison of Depository Institutions*
 (Percent)

	1975	1976	1977	1978	1979	1980	1981
Commercial Banks	0.69	0.70	0.71	0.76	0.80	0.79	0.76
Savings and Loans	0.47	0.63	0.77	0.82	0.67	0.14	-0.73
Mutual Savings Banks	0.38	0.45	0.55	0.58	0.46	-0.12	-0.83

*Profitability is the return on assets, or ROA. ROA is defined as net income as a percentage of the average of beginning and end of year assets.

Source: Commercial Banks—"Profitability of Insured Commercial Banks," *Federal Reserve Bulletin*, August 1982, Table 9. Savings and Loans and Mutual Savings Banks—"Thrift Institutions in Recent Years," *Federal Reserve Bulletin*, December 1982, Table 1.

Banks could keep more of their assets earning at or near market rates.

The contractual features of loans by thrifts combined with the less favorable economic environment of the 1979-82 period put thrifts in a profit squeeze. As interest rates rose and deregulation led to the introduction of new accounts paying market-related interest rates, the cost of funds at all depository institutions rose. Banks were able to maintain their profitability, however, by earning market rates of return on a significant part of their earning assets. Thrifts, able to earn market rates of interest on only a small proportion of their earning assets, saw their profitability decline both absolutely and relatively to banks.

Performance and outlook

Bank and thrift performance

Commercial banks were able to maintain deposit growth better than thrifts in the 1979-82 period, primarily because they were more successful in attracting consumer-type deposits. One explanation for the difference in deposit growth after 1979 is that banks were more profitable than thrifts. Their greater profitability probably made banks more aggressive in seek-

ing deposits to invest in earning assets. Another explanation is the phasing out of regulatory interest rate differentials that allowed thrifts to pay more than banks on certain time and savings deposits. The purpose of this interest rate differential had been to allow thrifts to compete for deposits with banks, which offered a wider variety of services. As thrifts began losing the advantage of the interest ceiling differential, customers lost some of the incentive to hold deposits with thrifts instead of banks. Also, because several large thrift institutions had failed or been merged into other institutions, there may have been a perceived risk difference between banks and thrifts that hastened deposit withdrawal from thrifts and increased deposits at banks.

Continued stable deposit growth at commercial banks contributed to stable growth in earning assets. Similarly, the decline in deposit growth at thrifts in the 1979-82 period contributed to a decline in earning asset growth. Another factor that contributed to differences in asset growth at banks and thrifts was differences in their regulation that worked to the detriment of the profitability of thrift institutions. Where asset restrictions on thrifts caused them to be geared to making consumer-oriented loans, primarily mortgages, banks were more

able to diversify their assets. When consumer borrowing declined in the 1979-82 period, thrifts were forced to invest in mortgage-backed or money market securities (Table 5). In contrast, banks—especially large banks—were able to respond to the decline in consumer loan demand and the rise in business loan demand by shifting from consumer loans to business loans. Because the yield on business loans was higher than the yield on mortgage-backed and money market securities, banks had a distinct profit advantage over thrifts.⁵ Given the differences in profitability, it is hardly surprising that asset growth was faster at banks than thrifts.

Bank and thrift outlook

The basis for more competition among depository institutions lies in their continued deregulation, as provided for in the DIDMCA and the Garn-St. Germain Act. The two major facets of the deregulation movement are the removal of interest rate ceilings from deposit accounts at banks and thrifts and the broadening of the asset powers of thrifts. The removal of interest rate ceilings began in late 1981 with the introduction of the ceiling-free IRA's. The real impact of ceiling removal was felt, however, when money market deposit accounts (MMDA's) were introduced in December 1982. More than \$367 billion was accumulated in MMDA's by the end of June

1983, a growth unparalleled by any other deposit account at any time. Super NOW accounts, checking accounts paying market-related rates, were introduced in early January 1983. Although they have not grown as fast as MMDA's, Super NOW's totaled more than \$31 billion by the end of June. In the short run, MMDA's and Super NOW's will raise the cost of funds at banks and thrifts, possibly causing profitability to decline. This is because most of the funds being deposited in these accounts are coming from the banks' and thrifts' own deposit bases. Although the long-run effect of these accounts on the profitability of banks and thrifts is as yet undetermined, the greater stability in deposits that comes from the ability to pay market-related rates should allow both banks and thrifts to shift more of their assets into longer term, higher yielding loans.

Broader asset powers for thrifts should help narrow the divergence in bank and thrift profitability that arises when interest rates shift unexpectedly. Thrifts, however, will now have to determine their own area of lending expertise and identify the markets in which they want to participate. This will be a break from the past, when their markets were determined by legislation. Competition between banks and thrifts will certainly increase, but the allocation of credit in the economy will be more efficient.

Conclusion

Depository institutions have faced numerous challenges in the past few years, including unfavorable macroeconomic trends, a monetary policy geared to the reduction of inflation, and a definitive move toward the deregulation of all depository institutions. Despite the challenges, commercial banks have fared well compared with other depository institutions. Part of the success of banks has been due to their ability to profit from a rise in business loan demand.

⁵ The following shows the average annual rate of return on prime rate loans, GNMA's, and 3-month Eurodeposits.

	1978	1979	1980	1981	1982
Prime	9.06	12.67	15.27	18.87	14.86
GNMA's	8.98	10.22	12.55	15.29	14.68
3-month Eurodeposits	8.78	11.96	14.00	16.79	13.12

Source: Federal Reserve Board *Annual Statistical Digest*.

Lending to business was an avenue of growth open to them when consumer loan demand was declining. Under previous regulation, this avenue was not open to thrifts. Whether the banking industry continues to outperform the thrift industry will depend on how each responds to the challenges and opportunities brought by further deregulation.

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