

Charts and Tables

Farm Credit Developments

Presented to the
American Farm Bureau Federation

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AGRICULTURAL FINANCE

Principles and Practice of Farm Credit

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PART I

PRINCIPLES OF FARM CREDIT

"There is no magic about credit. It is a powerful agency for good in the hands of those who know how to use it. So is a buzz saw. They are about equally dangerous in the hands of those who do not understand them. Speaking broadly, there are probably almost as many farmers in this country who are suffering from too much as from too little credit. Many a farmer would be better off today if he had never had a chance to borrow money at all, or go into debt for the things which he bought. However, that is no reason why those farmers who do know how to use credit should not have it"*

T. N. Carver

CHAPTER 1

USE OF FARM CREDIT

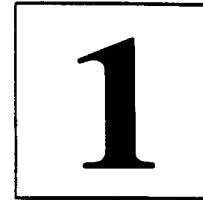
The tragedy of excessive debt and foreclosure has plagued so many farmers during depression periods in this and other countries that farmers may question whether they should use credit at all. Instead of borrowing, farmers do have the alternatives of saving until they can pay cash or of continuing indefinitely to rent the land and hire the equipment they need. If either policy is carried to the limit, no credit would be needed because all purchases would be for cash. It is reasonable to ask, therefore, whether it would not be wise for farmers to go on a cash-paying basis and abolish the use of agricultural credit.

CASE AGAINST BORROWING

Risks of crop failure and low prices are the chief reasons against borrowing. If the crop and the price for it are highly uncertain, as wheat yields and price in portions of the Great Plains, the farmer has little assurance under usual loan terms that he can meet his obligations when they come due. And it is the crop failure or the low price period which causes the debt distress which farmers want to avoid. Crop insurance, to be sure, is reducing crop failure risk, and commodity loans are serving as a prop to hold up prices, but farm returns in many instances are still subject to wide fluctuations.

Agricultural Finance
SEVENTH EDITION
1 9 8 0

Warren Lee
Michael Boehlje
Aaron Nelson
William Murray



Dimensions of Agricultural Finance

In modern farming, as in any other business, the key to a satisfactory income is a proper amount and combination of productive assets such as land, livestock, machinery, labor, and managerial talent. The amount of resources a farm operator controls, the terms and conditions under which they are obtained, and the way they are used determine the level of income.

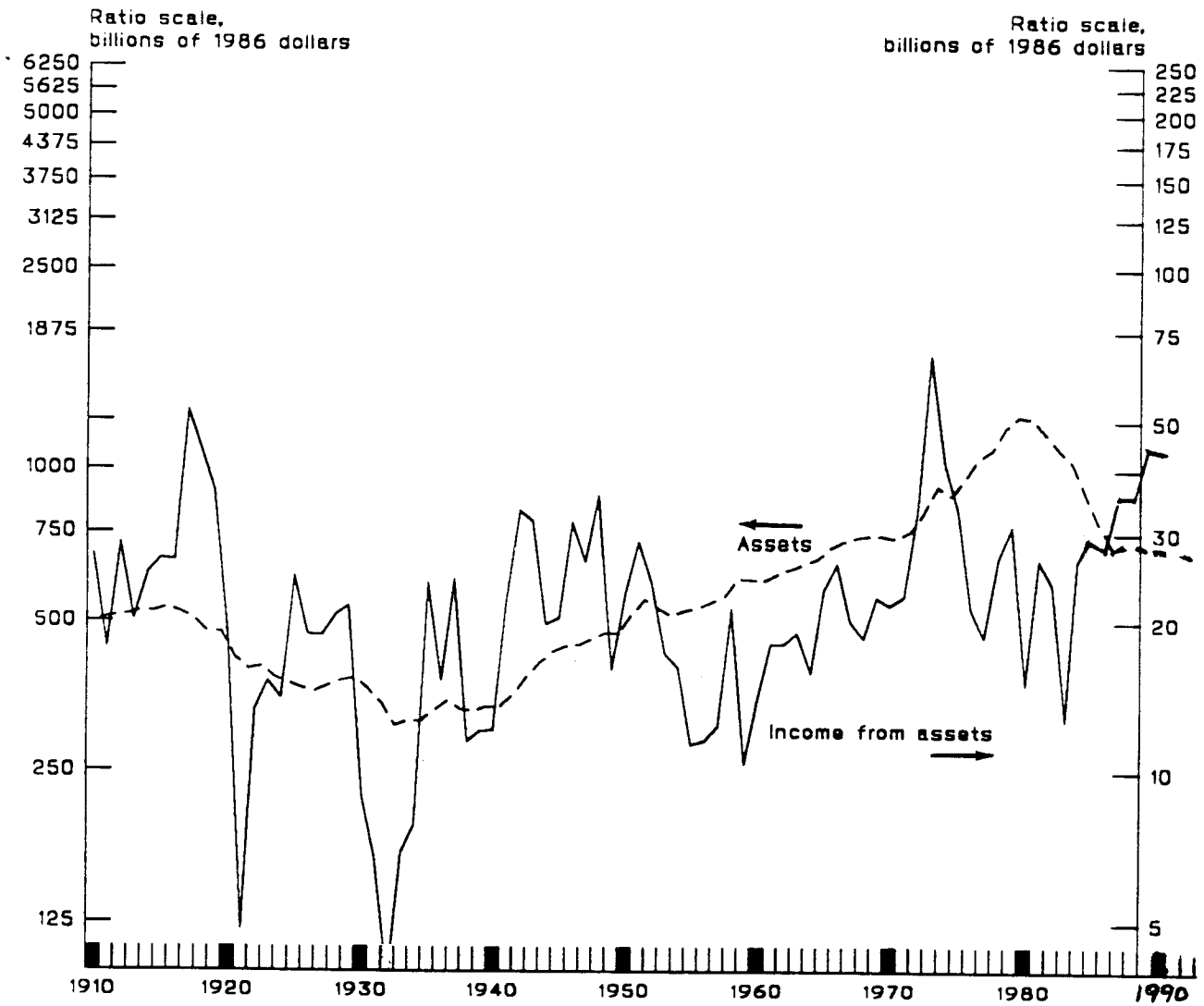
MEANING AND SCOPE. Agricultural finance is the economic study of the acquisition and use of capital in agriculture. It deals with the supply of and demand for funds in the agricultural sector of the economy. A knowledge of fundamental economic and management principles and analytical procedures facilitates obtaining control over capital and using it efficiently. Investment analysis helps determine how much capital it will pay to allocate to alternative uses. Financial analysis relating to income, repayment capacity, and risk management indicates the total amount of capital the farm business can profitably and safely use. Information on the legal aspects of borrowing, leasing, and contractual arrangements helps the farmer select the means of acquiring and controlling resources that will contribute most to his farming operation. A knowledge of the legal and financial aspects of retirement and estate planning can ensure an orderly transition and transfer of the farm business to the next generation. An understanding of agricultural credit institutions and the legal and regulatory environment in which they operate helps in the selection of lenders who can provide the proper amount of credit along with the terms and related services needed to adequately finance the business. These and other topics constitute the study of agricultural finance.

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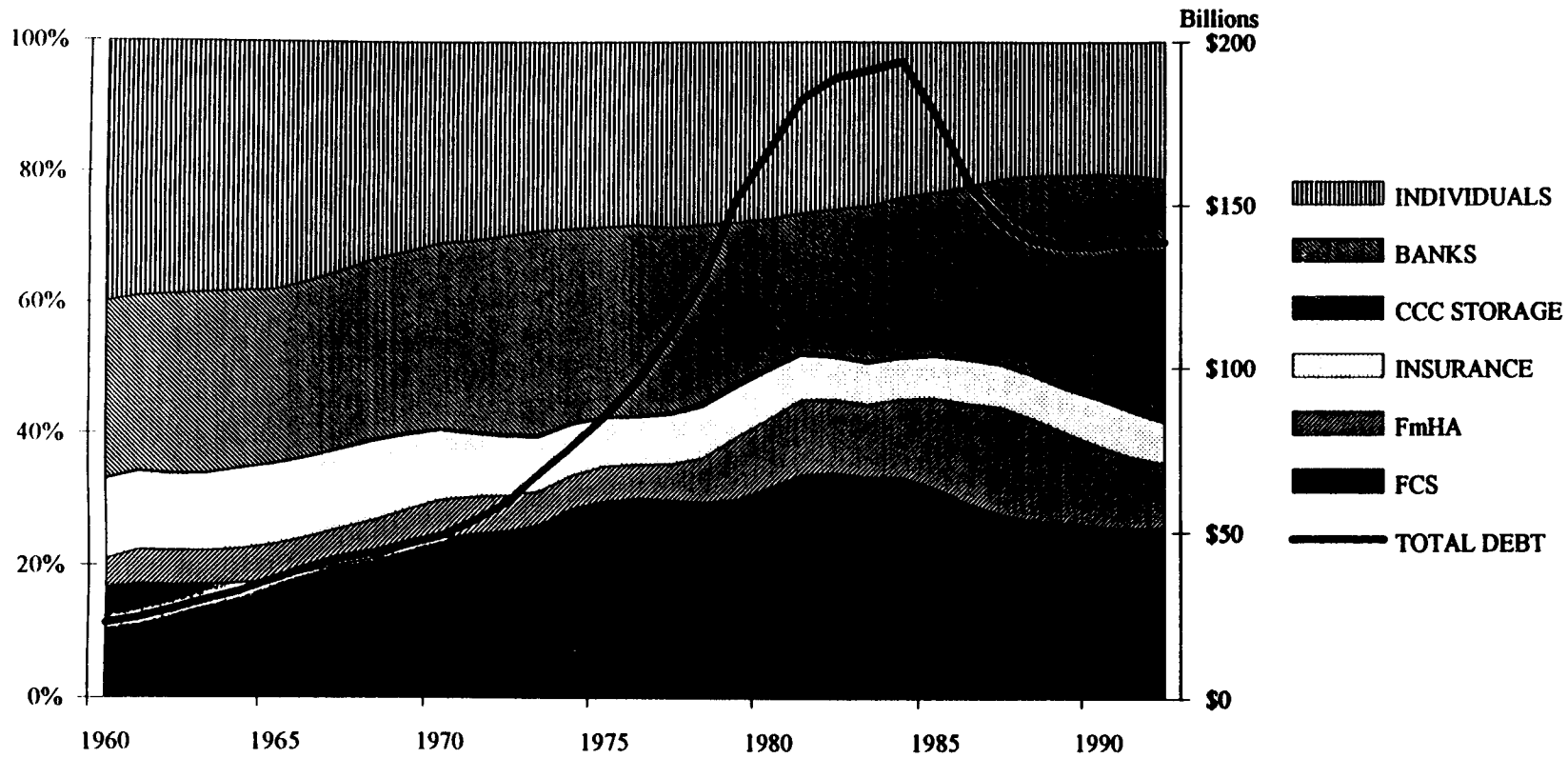
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Farm Assets and Income from Assets

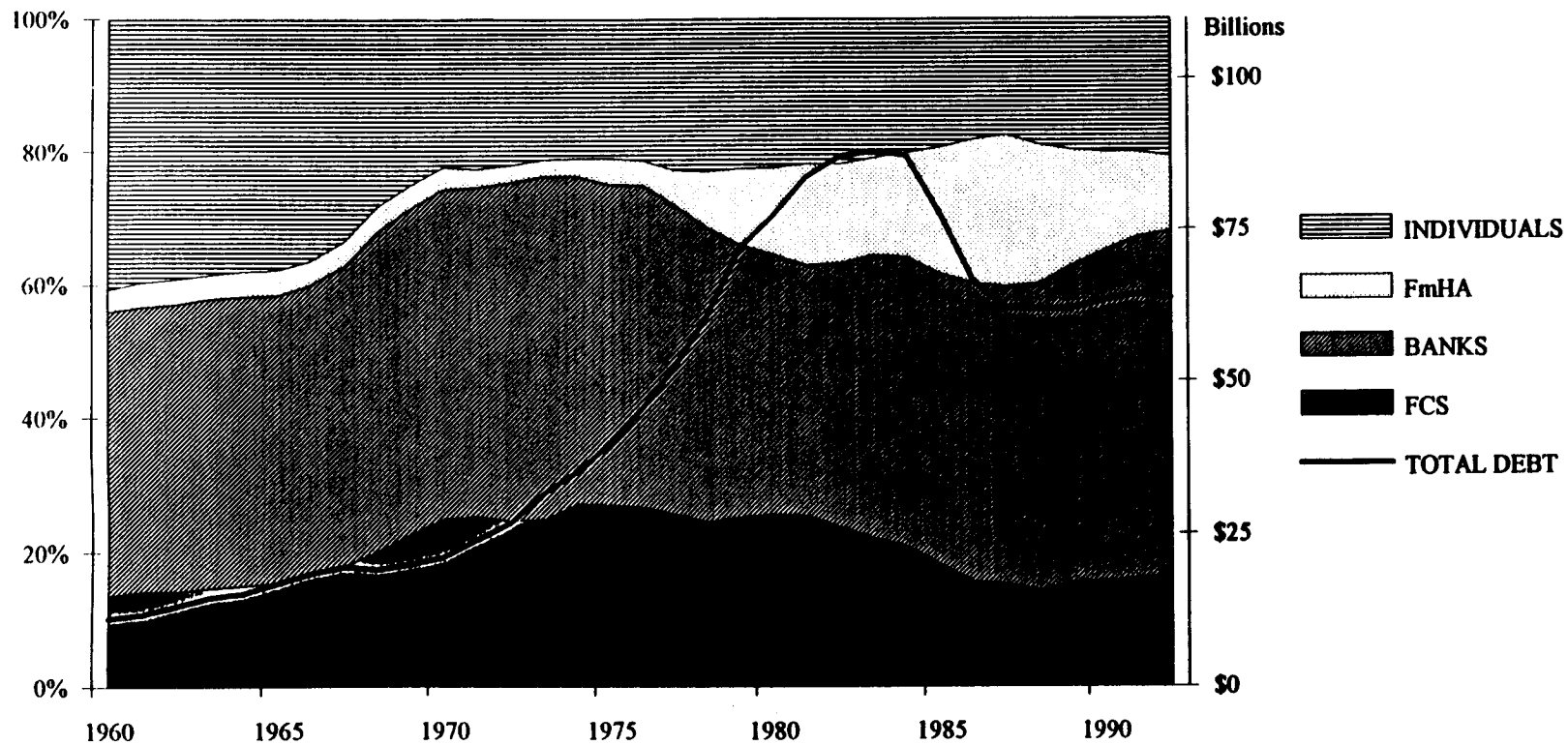


U.S. Farm Debt and Market Shares by Lender



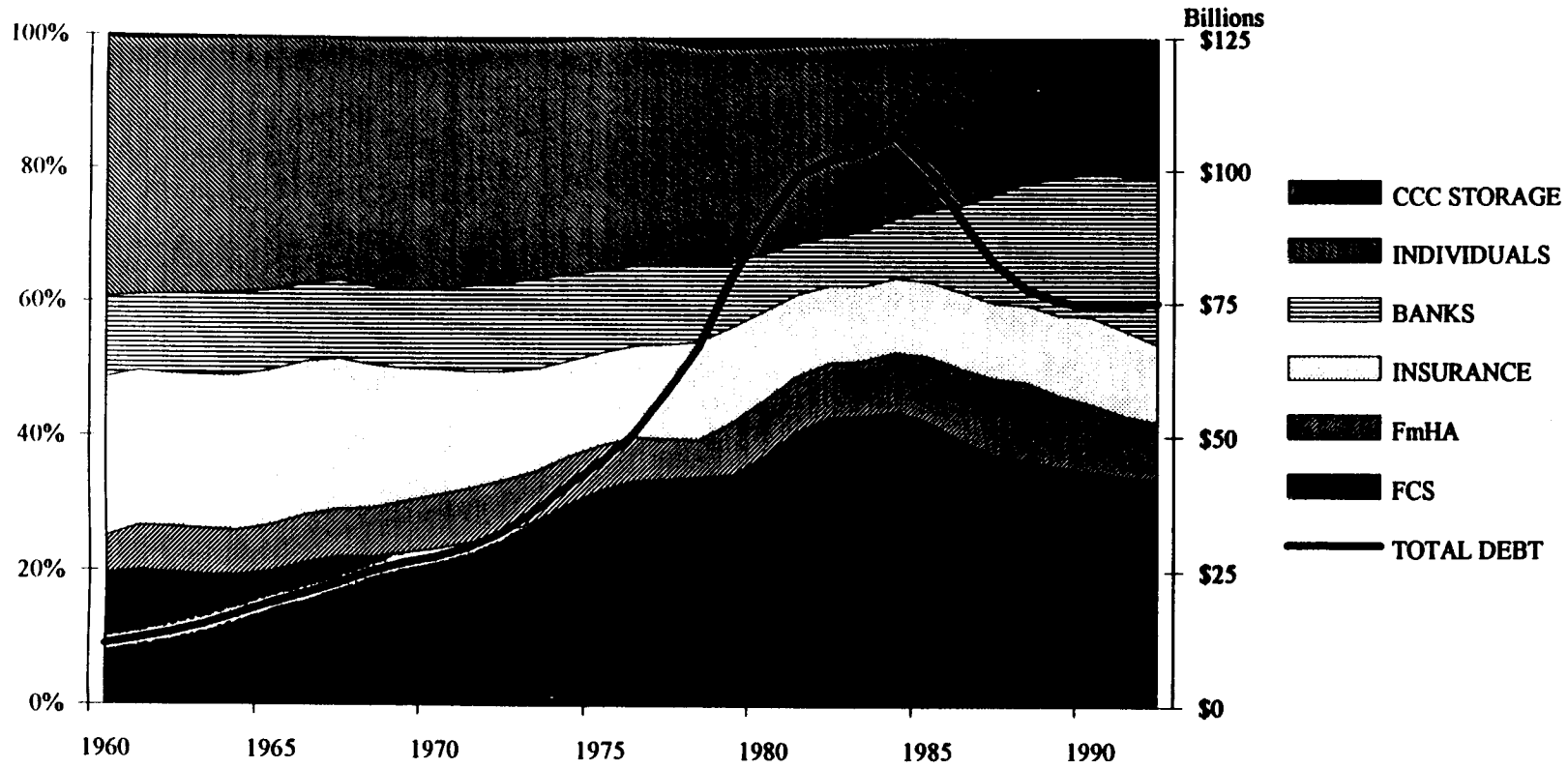
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U.S. Farm Nonreal Estate Debt and Market Shares by Lender

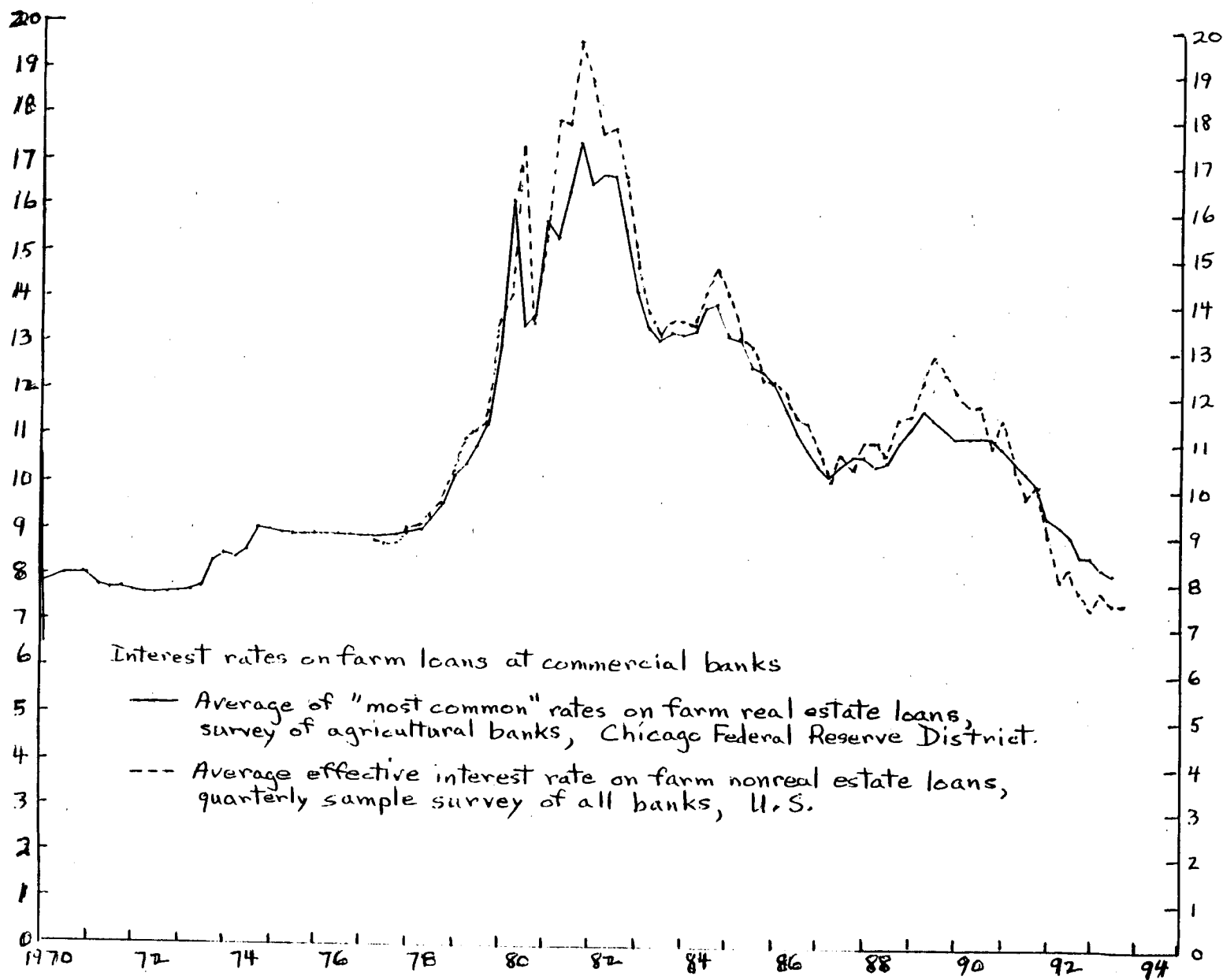


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U.S. Farm Real Estate Debt and Market Shares by Lender

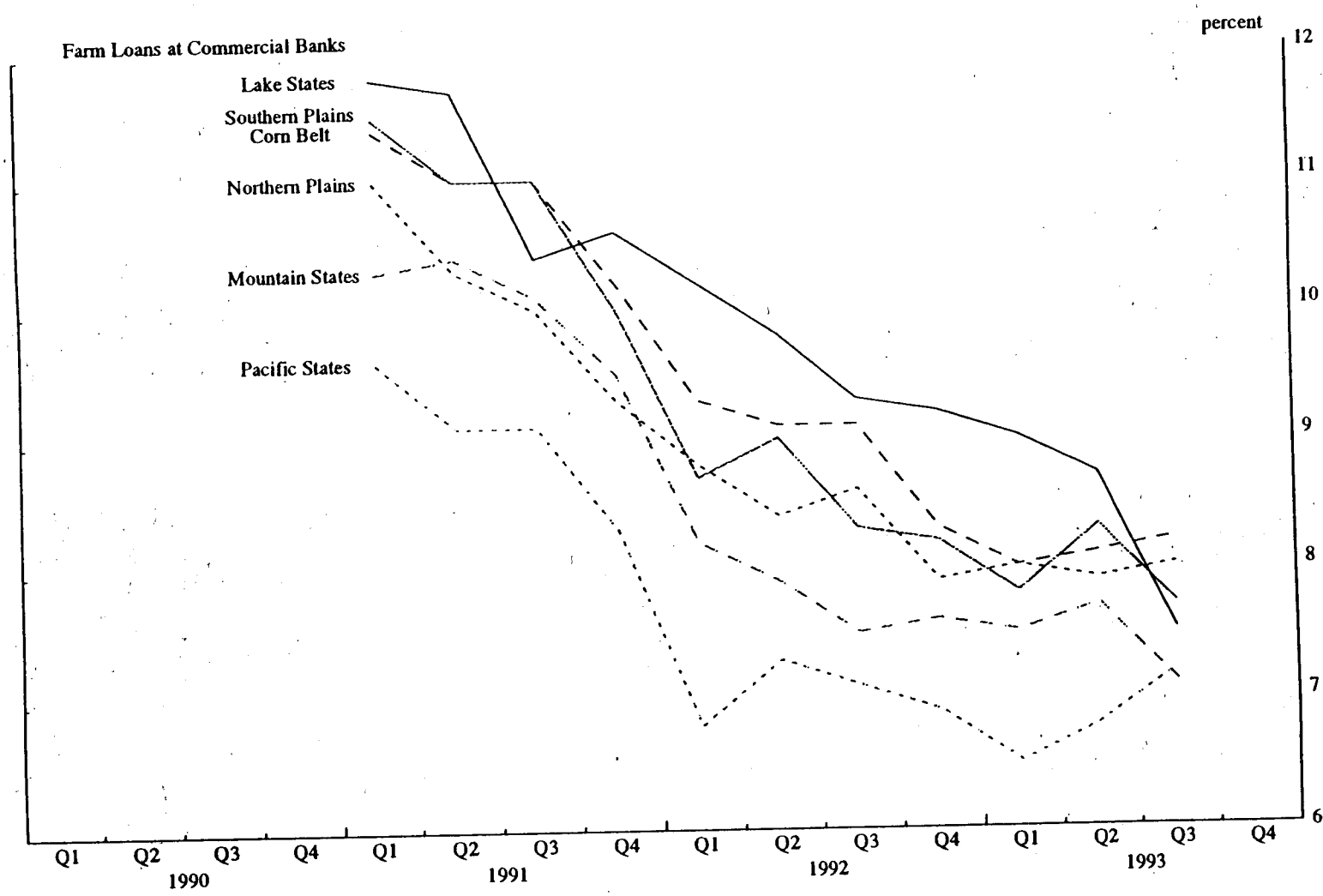


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Average interest rates on bank loans made during August 2-6, 1993

Size of farm loans (\$000)	Farm loans		Business loans			Size of business loans (\$000)
			All banks	Large banks	Other banks	
All loans ...	7.5		4.8	4.6	5.3	..... All loans
1-9 ...	8.9	} 8.4	7.7	7.3	7.8	..... 1-99
10-24 ...	8.6					
25-49 ...	8.3					
50-99 ...	7.9					
100-249 ...	7.6	} 7.0	6.8	6.7	6.9	..... 100-499
250 and over ...	6.9					
			6.4	6.3	6.5	..... 500-999
			5.4	5.4	5.3	..... 1000-4999
			4.4	4.5	4.0	..... 5000-9999
			3.9	3.9	3.8	.... 10000 and over
<u>Addendum: Percentage distribution of loan volume</u>						
All loans ...	100		100	100	100	..... All loans
1-9 ...	7	} 36	5	1	11	..... 1-99
10-24 ...	10					
25-49 ...	9					
50-99 ...	10					
100-249 ...	13	} 64	8	5	15	..... 100-499
250 and over ...	51					
			5	4	6 500-999
			25	23	29 1000-4999
			13	14	12 5000-9999
			45	54	27 10000 and over



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Percentage distribution of nonreal estate farm loans made by banks,
by effective interest rate

Effective interest rate (percent)	August																
	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
All loans	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Under 5.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	-
5.0 to 5.9	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	12
6.0 to 6.9	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	22	29
7.0 to 7.9	11	-	-	-	-	-	-	-	-	1	3	-	-	-	9	18	14
8.0 to 8.9	48	20	2	-	-	-	-	-	3	11	17	2	-	26	14	23	19
9.0 to 9.9	34	50	11	-	-	-	-	-	9	15	14	7	1	4	23	16	22
10.0 to 10.9	4	22	29	1	-	-	4	-	12	12	34	21	6	16	14	8	4
11.0 to 11.9	-	6	33	10	-	1	8	-	13	16	18	39	27	19	26	2	1
12.0 to 12.9	-	1	14	17	1	7	22	4	18	25	12	22	36	28	10	-	-
13.0 to 13.9	-	-	7	43	-	1	20	16	36	16	2	8	21	6	2	-	-
14.0 to 14.9	-	-	5	19	1	2	35	32	6	3	-	-	8	1	-	-	-
15.0 to 15.9	-	-	1	9	2	11	8	42	1	1	-	-	1	-	-	-	-
16.0 to 16.9	-	-	-	1	5	23	1	5	1	-	-	-	-	-	-	-	-
17.0 to 17.9	-	-	-	1	14	30	-	-	-	-	-	-	-	-	-	-	-
18.0 to 18.9	-	-	-	-	16	21	-	-	-	-	-	-	-	-	-	-	-
19.0 to 19.9	-	-	-	-	28	2	-	-	-	-	-	-	-	-	-	-	-
20.0 to 20.9	-	-	-	-	11	1	-	-	-	-	-	-	-	-	-	-	-
21.0 to 21.9	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-
22.0 to 22.9	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-
23.0 to 23.9	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
24.0 to 24.9	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
25.0 and over	-	-	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-

Source: Agricultural Finance Databook, Third Quarter 1993, Table I.G, p. 13,
and Fourth Quarter 1989, Table II.G, p. 15.

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Percentage distribution of agricultural banks by rate of return on equity

Year	Net income as a percentage of equity								Addendum: Average (percent) --	
	Negative	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 and over	All banks	Return on equity	Capital ratio
1970	1	5	24	43	21	5	2	100	13	8.8
1971	1	5	26	41	20	4	2	100	13	8.6
1972	1	6	28	43	18	4	1	100	13	8.2
1973	0	2	12	39	33	10	4	100	15	8.1
1974	1	2	12	35	34	12	4	100	16	8.4
1975	2	5	16	38	29	9	2	100	14	8.5
1976	1	4	14	41	30	8	2	100	14	8.7
1977	1	4	16	45	28	5	1	100	14	8.7
1978	1	3	14	46	28	6	1	100	14	8.9
1979	1	2	8	36	38	12	3	100	15	9.0
1980	1	2	9	33	35	14	5	100	16	9.2
1981	2	3	12	33	32	13	6	100	15	9.2
1982	4	5	15	33	28	11	4	100	14	9.3
1983	7	7	18	36	24	7	2	100	11	9.4
1984	13	9	23	36	15	3	1	100	8	9.5
1985	18	11	22	33	13	3	1	100	6	9.6
1986	19	14	27	28	9	2	1	100	5	9.5
1987	13	13	31	31	9	2	1	100	8	9.8
1988	9	9	30	36	12	3	2	100	10	9.9
1989	5	7	29	38	14	4	3	100	11	10.1
1990	5	7	33	38	13	3	1	100	11	9.9
1991	4	8	32	39	13	3	1	100	11	10.1
1992	2	5	25	41	20	5	2	100	13	10.4

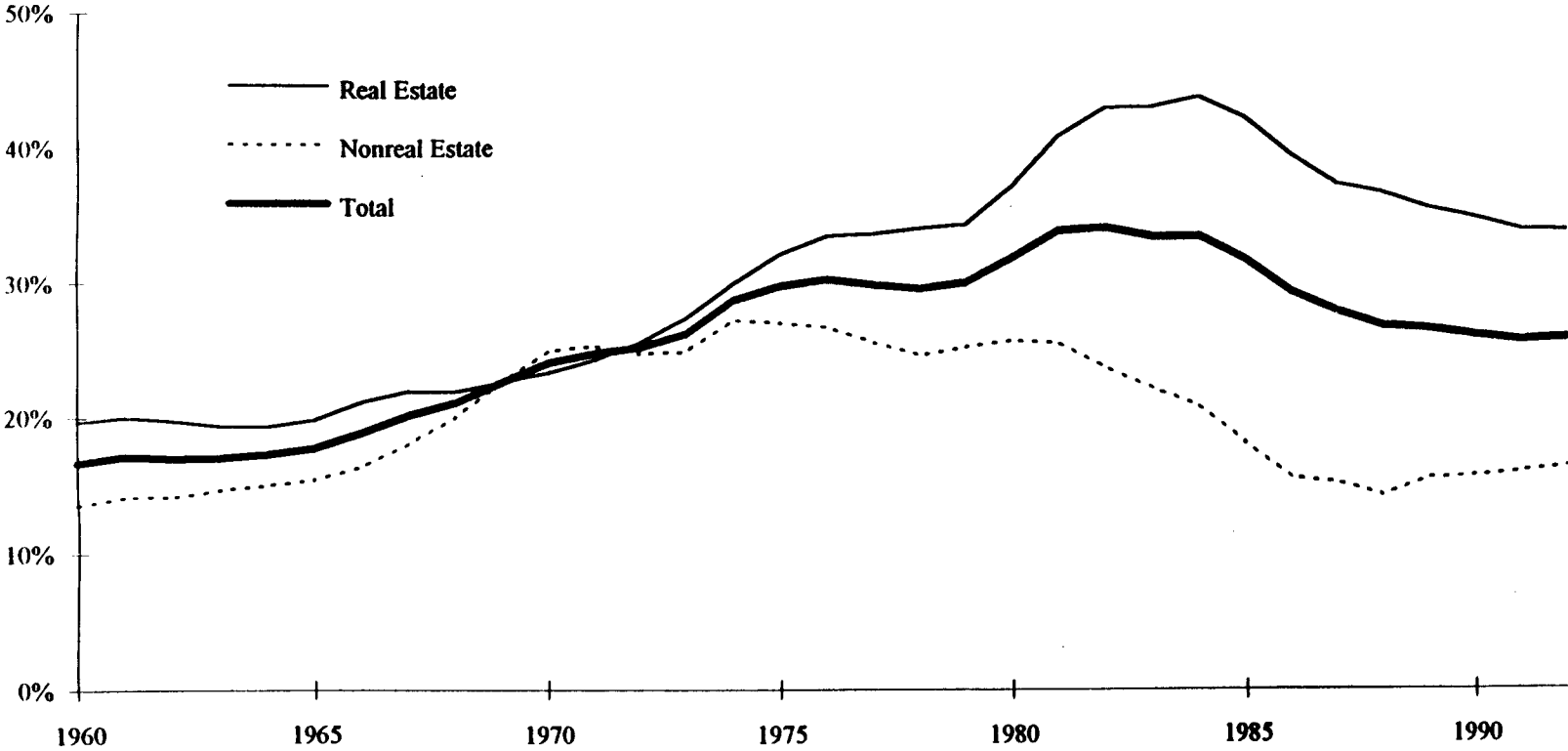
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Income, expenses, and profits of agricultural banks as a percentage of total assets

Year	Less:		Equals:	Plus:	Less:		Equals:	Less:		Equals:	Less:		Equals:
	Interest income	Interest expense	Net interest margin	Noninterest income	Noninterest expense, excluding loan losses	Net income before loan losses	Provision for loan losses	Net income before taxes	Income taxes	Net income	Cash dividends	Retained earnings	
1970	5.5	2.1	3.3	.4	2.2	1.5	.1	1.4	.4	.8			
1971	5.4	2.3	3.2	.4	2.2	1.4	.1	1.2	.3	.9			
1972	5.1	2.3	2.8	.3	2.1	1.2	.1	1.1	.3	.9			
1973	5.2	2.5	2.7	.3	2.0	1.5	.1	1.4	.4	1.0			
1974	6.4	3.0	3.5	.3	2.1	1.7	.1	1.5	.4	1.1			
1975	6.3	3.1	3.2	.3	2.2	1.4	.1	1.3	.3	1.0			
1976	6.6	3.3	3.3	.3	2.2	1.4	.1	1.3	.2	1.1			
1977	6.7	3.4	3.3	.3	2.2	1.4	.1	1.3	.3	1.0			
1978	7.0	3.6	3.5	.4	2.3	1.6	.2	1.4	.3	1.1	.3	.8	
1979	7.8	4.1	3.7	.4	2.3	1.8	.2	1.5	.3	1.2	.3	.9	
1980	9.3	5.3	4.0	.4	2.4	2.0	.2	1.7	.4	1.3	.3	.9	
1981	11.0	7.1	4.0	.5	2.5	1.9	.3	1.6	.4	1.2	.4	.8	
1982	11.4	7.5	3.9	.5	2.6	1.8	.4	1.4	.3	1.1	.4	.7	
1983	10.3	6.5	3.8	.5	2.6	1.7	.6	1.1	.2	1.0	.4	.6	
1984	10.6	6.9	3.7	.5	2.6	1.6	.8	.8	.1	.7	.4	.3	
1985	10.0	6.2	3.8	.5	2.7	1.7	1.2	.6	.0	.5	.4	.1	
1986	9.0	5.4	3.6	.7	2.7	1.6	1.1	.5	.1	.4	.4	.1	
1987	8.3	4.7	3.6	.5	2.7	1.4	.6	.9	.2	.7	.4	.3	
1988	8.5	4.8	3.7	.6	2.7	1.6	.4	1.2	.3	.9	.5	.4	
1989	9.1	5.4	3.7	.6	2.7	1.6	.3	1.3	.4	1.0	.5	.4	
1990	9.2	5.4	3.7	.6	2.7	1.6	.2	1.3	.4	1.0	.5	.4	
1991	8.6	4.8	3.8	.6	2.8	1.6	.2	1.4	.4	1.0	.6	.5	
1992	7.5	3.5	4.0	.6	2.8	1.8	.2	1.6	.5	1.2	.6	.6	
1993-2Q	7.1	3.0	4.1	.7	2.8	1.9	.2	1.8	.5	1.4	.5	.8	

Data for 1993 are for the first two quarters, shown at an annual rate.

Farm Credit System Shares of Farm Debt



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Loan loss experience and capital position of the Farm Credit System
Billions of dollars

Year	Addendum:	Allowance for losses, beginning of year	Less:	Plus:	Equals:	Plus:	Equals:	Addendum:
	Nonaccrual loans, beginning of year		Annual net charge-offs	Annual provision for losses	Allowance for losses, end of year	Capital stock and surplus	Total capital and allowance	Capital ratio (percent)
1980	.2	1.1	*	.2	1.2	8.5	9.7	12.7
1981	.3	1.2	.1	.2	1.4	9.9	11.3	12.9
1982	.4	1.4	.2	.2	1.4	11.0	12.5	13.8
1983	.7	1.4	.3	.2	1.4	11.3	12.7	14.2
1984	1.3	1.4	.4	.4	1.3	11.8	13.2	14.8
1985	2.1	1.3	1.1	3.0	3.2	8.4	11.6	13.8
1986	5.3	3.2	1.4	1.8	3.6	5.6	9.3	12.6
1987	7.1	3.6	.5	-.2	3.0	5.0	8.0	12.2
1988	5.2	3.0	.4	-.7	1.9	5.3	7.2	11.3
1989	3.3	1.9	*	-.3	1.6	5.4	7.0	10.7
1990	2.6	1.6	*	*	1.5	5.8	7.4	11.3
1991	2.6	1.5	*	.1	1.5	6.4	7.9	12.4
1992	2.3	1.5	*	*	1.5	7.2	8.7	13.5
1993-Q3	2.0	1.5	*	*	1.5	8.1	9.6	14.8

* Absolute value is less than \$50 million.

Data for 1993 are as of September 30.

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Income, expenses, and change in capital position of the Farm Credit System
Billions of dollars

Year	Less:	Equals:	Plus:	Less:	Equals:	Less:	Equals:	Plus:	Equals:	Plus:	Equals:	
	Interest income	Interest expense	Net interest margin	Noninterest income	Noninterest expense excluding loan losses	Net income before loan losses	Provision for loan losses	Net income *	Other change in capital	Change in capital and surplus	Change in loan loss allowance	Change in capital and allowance
1980	7.6	6.2	1.4	.2	.5	1.1	.2	.9	.5	1.3	.2	1.5
1981	9.9	8.4	1.5	.4	.6	1.3	.2	1.0	.5	1.5	.2	1.6
1982	10.8	9.1	1.7	.3	.7	1.4	.2	1.1	.0	1.1	.0	1.1
1983	9.6	8.2	1.4	.2	.8	.8	.2	.5	-.3	.3	-.0	.3
1984	9.8	8.4	1.5	.1	.8	.7	.4	.4	.1	.5	-.1	.4
1985	9.0	7.7	1.3	-.1	.9	.3	3.0	-2.7	-.8	-3.5	1.9	-1.6
1986	7.2	6.4	.8	-.1	.8	-.1	1.8	-1.9	-.8	-2.7	.4	-2.3
1987	5.8	5.3	.5	.1	.8	-.2	-.2	.0	-.6	-.6	-.7	-1.3
1988	5.8	5.0	.8	.0	.7	.1	-.7	.7	-.4	.3	-1.1	-.8
1989	6.3	5.3	1.0	.2	.7	.5	-.3	.7	-.6	.1	-.3	-.1
1990	6.1	4.9	1.2	.1	.7	.6	-.0	.6	-.1	.5	-.1	.5
1991	5.5	3.9	1.6	.2	.8	1.0	.1	.8	-.3	.6	.0	.6
1992	4.7	2.9	1.8	.2	.8	1.2	.0	1.0	-.2	.8	.0	.8
1993-3Q	4.3	2.4	1.9			1.5	.0	1.3	-.1	1.2	.0	1.2

* After income taxes (not shown), which reached \$147 million in 1992.

Data for 1993 are for the first three quarters, shown at an annual rate.

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Income, expenses, and change in capital position of the Farm Credit System as a percentage of total assets

Year	Less:	Equals:	Plus:	Less:	Equals:	Less:	Equals:	Plus:	Equals:	Plus:	Equals:	
	Interest income	Interest expense	Net interest margin	Noninterest income	Noninterest expense, excluding loan losses	Net income before loan losses	Provision for loan losses	Net income *	Other change in capital	Change in capital and surplus	Change in loan loss allowance	Change in capital and allowance
1980	10.0	8.1	1.8	.3	.7	1.4	.3	1.1	.6	1.8	.2	2.0
1981	11.3	9.6	1.7	.4	.7	1.5	.3	1.2	.5	1.7	.2	1.9
1982	12.0	10.1	1.9	.4	.8	1.5	.2	1.2	.0	1.2	.0	1.3
1983	10.7	9.1	1.6	.2	.8	.9	.3	.6	-.3	.3	.0	.3
1984	11.1	9.4	1.6	.1	.9	.9	.4	.4	.2	.6	-.1	.5
1985	10.7	9.2	1.5	-.2	1.1	.3	3.5	-3.2	-.9	-4.1	2.2	-1.9
1986	9.7	8.7	1.1	-.1	1.1	-.2	2.4	-2.6	-1.1	-3.7	.6	-3.1
1987	8.9	8.1	.8	.1	1.2	-.3	-.3	.0	-.9	-.9	-1.0	-2.0
1988	9.2	7.9	1.2	.0	1.2	.1	-1.1	1.1	-.7	.4	-1.7	-1.3
1989	9.6	8.0	1.5	.3	1.1	.7	-.4	1.1	-.8	.2	-.4	-.2
1990	9.4	7.5	1.9	.2	1.2	1.0	-.1	.9	-.1	.8	-.1	.7
1991	8.6	6.2	2.4	.3	1.2	1.5	.1	1.3	-.4	.9	.0	.9
1992	7.3	4.5	2.8	.3	1.3	1.8	.0	1.5	-.3	1.3	.0	1.3
1993-3Q	6.7	3.7	3.0			2.3	.0	2.0	-.2	1.8	.0	1.9

* After income taxes.

Data for 1993 are for the first three quarters, shown at an annual rate.

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