

1981 AGRICULTURAL OUTLOOK

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## SELECTED ASPECTS OF FARM SECTOR FINANCIAL EXPERIENCE AND OUTLOOK

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These remarks cover three areas: (1) farm sector profitability and its implications for the sector's financial condition, which continues to be widely misunderstood; (2) liquidity conditions and farm lending experience at agricultural banks; and (3) farm loan interest rates.<sup>1</sup>

### I. FARM SECTOR PROFITABILITY

One often hears that farm real estate is selling at prices not justified by its income, implying that farm asset values have shaky, speculative underpinnings; or, that the ratio of farm debt to net farm income has risen greatly, implying that the ability to service and repay debt may be increasingly in jeopardy. If true, these considerations would dominate the farm financial outlook; thus, it is relevant to assess their validity in this session.

In each of these statements, the same serious analytical error has been committed: the farm income stream being compared with assets, debt, or marketings is the USDA's net farm income series, which represents income to farm operators' labor and management as well as income to farm capital. When such income is used in these comparisons, the financial condition of the farm sector appears to have deteriorated severely over the past 25 years. This is a false result, for the following reason.

Over time, there has been substantial substitution of capital for labor in farm production. Thus, with each passing year more of the USDA's net farm income represented a return to capital and less of it represented a return to labor. The change has been striking: USDA estimates indicate that whereas only about 30 percent of total returns to farming could be considered a return to capital in the midfifties, by the late seventies that proportion has risen to over 70 percent. Consequently, the return to farm production assets has risen rapidly—in constant dollars, by an annual average of 4.2 percent over 1954-79 (upper panel of chart 1). This series—which is akin to corporate business profits in that it is what remains after labor and management are paid going wage rates and management fees—represents the relevant data for comparisons with asset and debt levels.

In chart 1, this return-to-assets series is compared with asset values. Other things equal, asset values should rise at about the same pace as the growth in the return they are producing. This has been true of

<sup>1</sup>The analyses and conclusions are those of the author and do not necessarily reflect the views of the Board of Governors or of other members of its staff.

farm assets. For some years, farm assets have on average remained priced at about 25 times their growing return, with that annual return thus averaging about 4 percent of asset values (lower panel of chart 1).

Financial theory indicates that this price/earnings multiple was appropriate for farm assets if the return to these assets was expected to keep growing at an annual rate of about 4 percent and if owners of these assets were seeking a total real annual yield of about 8 percent (this being the actual average total yield). If these are reasonable assumptions about the expectations and goals of owners and buyers of farm assets, then farm assets have not been overpriced.<sup>2</sup>

In similar fashion, chart 2 shows that the return to assets has, over the past 25 years, kept pace with rising farm debt. Since 1954, the ratio of outstanding debt to the annual return to assets has fluctuated around a value of 4 (lower panel of chart 2).<sup>3</sup>

## II. BANK LIQUIDITY AND FARM LENDING

Time and savings deposits at agricultural banks continued to rise in late 1979 and in each of the first three quarters of 1980, even when money-market interest rates were soaring. Steady gains were experienced by banks in each of the major farming areas (table 1).

By late April, however, it became evident that loans at agricultural banks were not increasing as they normally do in the spring. Significantly, this experience occurred not only in States in which the liquidity positions of agricultural banks had deteriorated since the spring of 1979, but also in the many regions in which agricultural banks were as liquid as, or more liquid than, they had been a year earlier (table 2). Thus, factors dampening loan demand generally—high interest rates and business recession—appear to have been primarily responsible for lack of growth in bank loans.

Consequently, the average loan/deposit ratio at agricultural banks fell sharply during the second and third quarters, when it normally exhibits a strong seasonal increase (chart 3). Improvements in average rural-bank liquidity were especially marked in the Lake States, Corn Belt, and Northern Plains (table 3). By mid-October, the national

<sup>2</sup> Owners of farm assets have thus been receiving about half of their total real return in the form of current income and half in the form of real capital gains. This puts farmland buyers who need high current income, such as beginning farmers, at a disadvantage vis-a-vis buyers who prefer or are content with accumulating capital gains. The many persons and groups who are currently seeking to increase the "profitability" of farm assets—meaning the rate of return in the form of current income—must first understand that this can only be accomplished by increasing the proportion of current income in the total return mix. That, in turn, can only be accomplished by reducing the growth rate of the current return.

This analysis thus has paradoxical policy implications, in that the policies that such persons and groups should advocate are often not the ones they now tend to put forth. But the essence of the analysis is very simple: the "profitability" of farming in terms of the rate of current income to assets can only increase if those assets are priced at a lower multiple of that income. The key to understanding and appropriate policy formulation lies in next realizing that the present high multiple is a logical consequence of the growth record of the current income; hence the importance of the common analytical error that has obscured that record.

<sup>3</sup> Analysts have also expressed concern that a marked decline in the ratio of net income to gross income—the "profit" margin—indicates that the financial vulnerability of the farm sector has increased. Again, however, that "profit" margin includes operators' labor and management earnings. The return to assets alone has not shown a secular decline relative to farm cash receipts or gross income. Thus for farm groups for which most labor inputs are fixed cash outlays (such as very large or corporate farms), profit margins and financial vulnerability may have not changed significantly. They have probably moved adversely on farms (such as tenant-operated farms) on which labor earnings comprise a large proportion of operators' net income.

average loan/deposit ratio at agricultural banks had dropped to 60 percent; however, this was still significantly above the level of 55 percent that had prevailed for 7 years prior to 1976 (table 4).

Agricultural banks in States at the western end of the Corn Belt—Iowa, Nebraska, Minnesota, and the Dakotas—had entered 1980 with relatively high loan/deposit ratios. The average liquidity position of agricultural banks has improved considerably in each of these States (table 4).

The volume of non-real-estate farm loans outstanding at commercial banks did not increase during the first half of 1980; the last time this happened was in 1942. In the third quarter, however, these loans rose by about \$500,000,000, or 1.7 percent, to a total of \$31.6 billion. When compared with the experience of earlier years, the most striking reductions in farm loans at banks occurred in the Midwest and Plains States—Federal Reserve Districts 7, 9, and 10 (table 5). In many other States, farm loan growth at banks was maintained within the range of recent experience.

### III. FARM LOAN INTEREST RATES AT BANKS

For the first time, farm loan interest rates at rural banks rose sharply during a cyclical upswing in money-market rates and in the prime rate at large banks (chart 4).

It is not likely that the higher opportunity cost of making farm loans during this period was a major factor in the rural rate increases, because, as chart 4 indicates, rural banks had not raised farm loan rates much when similar opportunity cost increases occurred in earlier cycles.

Rural banks raised loan rates sharply in this cycle because, for the first time, their cost of loanable funds increased greatly as money-market rates soared. But this did not happen because they were raising more funds through money-market instruments such as Federal funds or large certificates of deposit; they were not doing so (first two panels of table 6). Rather, their cost rose because their local depositors rapidly shifted a large proportion of their deposits into the "money-market" certificates (deposits of \$10,000 or more with minimum maturity of 6 months and rate ceilings tied to recent U.S. Treasury bill yields) that had been introduced in 1978 (last panel of table 6).

During future periods of monetary restraint, farm loan rates at rural banks are thus likely to move with money-market rates, as they have done since mid-1979 (chart 5). It remains to be seen, however, how the depositors, and thus the loan rates, of rural banks will behave during periods of more normal monetary conditions, when short-term money-market rates represent the low end of the interest rate spectrum.

Timely information on average farm loan rates typically being charged by rural banks is provided by the quarterly Federal Reserve bank surveys of farm credit conditions. More detail on terms of farm loans at all banks is provided by a quarterly Federal Reserve survey of terms of a sample of individual loans made during the first week of February, May, August, and November (chart 5, tables 7 and 8). Results are published about 7 weeks later in Statistical Release E.2, available from Publications Services, Federal Reserve Board, Washington, D.C. 20551. A mailing list is maintained.

TABLE 1.—ESTIMATES FOR LOAN-DEPOSIT PROJECTION PROJECT, E. MELICHAH, NOV. 17, 1980:  
AGRICULTURAL INSURED COMMERCIAL BANKS,<sup>1</sup> TIME AND SAVINGS DEPOSITS

[Percentage change from Jan. 2, 1980 to date shown]

Date	Farm production areas									
	North-east States	Lake States	Corn Belt	North-ern Plains	Appa-lachian States	South-east States	Delta States	South-ern Plains	Moun-tain States	Pacific States
	(10)	(20)	(25)	(25)	(15)	(15)	(15)	(25)	(15)	(15)
Jan. 9, 1980	0	1	1	1	1	1	2	1	1	0
Jan. 16, 1980	1	1	1	2	1	1	2	2	1	0
Jan. 23, 1980	1	1	1	2	2	2	3	2	1	0
Jan. 30, 1980	1	1	2	3	2	2	3	3	2	1
Feb. 6, 1980	2	2	2	3	2	2	3	4	2	1
Feb. 13, 1980	2	2	2	3	2	2	4	4	2	1
Feb. 20, 1980	2	2	2	3	2	3	4	4	2	2
Feb. 27, 1980	2	2	2	4	3	3	4	5	3	2
Mar. 5, 1980	2	3	3	4	3	4	5	6	3	3
Mar. 12, 1980	3	3	3	4	3	4	5	6	3	3
Mar. 19, 1980	2	3	4	4	4	5	6	7	3	3
Mar. 26, 1980	2	3	4	5	4	5	6	7	3	3
Apr. 2, 1980	3	4	5	5	4	6	7	8	4	4
Apr. 9, 1980	3	4	6	6	5	6	7	9	4	4
Apr. 16, 1980	3	4	6	6	5	6	7	9	3	4
Apr. 23, 1980	3	4	6	6	5	5	7	9	4	4
Apr. 30, 1980	4	4	6	6	5	5	7	9	4	4
May 7, 1980	4	5	6	7	5	5	7	9	4	4
May 14, 1980	4	5	6	7	5	5	7	9	4	4
May 21, 1980	5	5	7	7	6	7	7	9	4	5
May 28, 1980	5	5	7	8	6	7	7	10	5	5
June 4, 1980	6	6	7	8	6	7	8	10	5	5
June 11, 1980	6	6	7	8	6	8	8	10	5	5
June 18, 1980	6	6	7	8	5	8	8	10	5	4
June 25, 1980	6	6	7	8	5	8	8	10	5	4
July 2, 1980	6	6	7	9	6	9	9	10	5	5
July 9, 1980	7	6	8	9	6	9	9	11	5	5
July 16, 1980	7	7	8	9	6	9	9	11	5	5
July 23, 1980	7	8	8	9	6	9	10	11	6	6
July 30, 1980	7	8	8	9	6	8	10	11	6	6
Aug. 6, 1980	7	8	9	10	6	8	10	11	6	6
Aug. 13, 1980	7	8	9	10	7	8	11	12	6	6
Aug. 20, 1980	8	9	9	10	7	8	11	12	7	6
Aug. 27, 1980	8	9	9	10	7	8	11	12	7	6
Sept. 3, 1980	8	9	9	10	7	9	11	13	7	7
Sept. 10, 1980	8	9	10	11	7	9	12	13	7	7
Sept. 17, 1980	8	9	10	11	8	9	11	13	7	7
Sept. 24, 1980	8	9	11	11	8	9	12	14	8	8
Oct. 1, 1980	9	9	11	11	8	9	11	13	7	8
Oct. 8, 1980	10	11	12	11	8	9	12	15	8	9
Oct. 15, 1980	10	10	13	11	9	10	13	15	8	9
Oct. 22, 1980	10	11	13	12	9	10	13	15	9	10

<sup>1</sup> Banks at which farm loans represent at least the percentage of total loans shown in the column headings.

TABLE 2.—ESTIMATES FROM LOAN-DEPOSIT PROJECTION PROJECT, E. MELICHR, NOV. 17, 1980: AGRICULTURAL INSURED COMMERCIAL BANKS,<sup>1</sup> TOTAL LOANS

[Percentage change from Jan. 2, 1980 to date shown]

Date	Farm production areas									
	North-east States	Lake States	Corn Belt	North-ern Plains	Appa-lachian States	South-east States	Delta States	South-ern Plains	Moun-tain States	Pacific States
	(10)	(20)	(25)	(25)	(15)	(15)	(15)	(25)	(15)	(15)
Jan. 9, 1980	0	0	0	0	0	0	-1	-1	0	0
Jan. 16, 1980	0	0	0	0	0	0	-1	-1	0	0
Jan. 23, 1980	0	0	1	0	0	0	-1	-1	0	0
Jan. 30, 1980	0	0	1	-1	0	0	0	-1	0	0
Feb. 6, 1980	0	0	1	-1	0	0	0	-1	0	1
Feb. 13, 1980	0	0	1	-1	0	0	0	-1	0	1
Feb. 20, 1980	0	0	1	-1	0	0	0	-1	0	1
Feb. 27, 1980	0	0	1	-1	0	0	0	-1	0	1
Mar. 5, 1980	0	0	0	0	0	1	0	0	0	1
Mar. 12, 1980	0	1	0	0	0	1	1	0	0	1
Mar. 19, 1980	0	0	0	0	0	1	1	0	0	1
Mar. 26, 1980	0	0	0	0	0	0	1	1	0	1
Apr. 2, 1980	0	0	0	0	0	1	1	1	0	1
Apr. 9, 1980	0	0	1	-1	1	0	1	1	0	1
Apr. 16, 1980	0	0	1	-1	0	0	2	1	0	1
Apr. 23, 1980	0	0	1	-1	1	0	2	1	0	1
Apr. 30, 1980	0	0	1	-1	1	0	2	1	0	1
May 7, 1980	0	0	2	-1	1	1	2	1	0	1
May 14, 1980	0	0	2	-1	1	1	2	1	0	1
May 21, 1980	0	-1	2	-2	1	1	2	1	0	1
May 28, 1980	0	0	2	-2	1	1	2	1	0	1
June 4, 1980	1	1	2	-2	1	1	2	1	0	1
June 11, 1980	1	0	2	-2	1	1	2	1	0	1
June 18, 1980	1	0	2	-2	1	1	2	1	1	1
June 25, 1980	1	-1	2	-2	1	1	2	2	1	1
July 2, 1980	1	0	2	-1	1	1	2	2	1	1
July 9, 1980	1	0	2	-1	1	1	2	2	1	1
July 16, 1980	1	-1	2	-2	2	0	2	2	1	1
July 23, 1980	1	1	2	-2	2	0	0	2	1	1
July 30, 1980	1	1	2	-2	2	0	1	2	1	1
Aug. 6, 1980	1	1	2	-2	2	0	1	2	1	1
Aug. 13, 1980	1	1	2	-2	2	0	2	2	1	1
Aug. 20, 1980	0	1	2	-2	2	0	2	2	2	1
Aug. 27, 1980	0	1	2	-2	2	1	2	2	2	1
Sept. 3, 1980	0	1	2	-2	2	1	2	2	2	1
Sept. 10, 1980	0	1	2	-2	2	1	2	2	2	1
Sept. 17, 1980	0	1	2	-2	2	1	3	2	2	1
Sept. 24, 1980	0	1	2	-2	2	1	3	2	2	1
Oct. 1, 1980	0	1	2	-2	1	1	3	2	2	1
Oct. 8, 1980	1	-1	2	-2	0	1	4	2	2	1
Oct. 15, 1980	1	-1	2	-2	0	2	4	2	2	1
Oct. 22, 1980	1	-1	2	-2	0	2	4	2	2	1

<sup>1</sup> Banks at which farm loans represent at least the percentage of total loans shown in the column headings.

TABLE 3.—ESTIMATES FROM LOAN-DEPOSIT PROJECTION PROJECT, E. MELICHAIR, NOV 17, 1980: AGRICULTURAL INSURED COMMERCIAL BANKS,<sup>1</sup> LOAN/DEPOSIT RATIO (PERCENT)

[Percentage change from Jan. 2, 1980 to date shown]

Date	Farm production areas									
	North-east States	Lake States	Corn Belt	North-ern Plains	Appa-lachian States	South-east States	Delta States	South-ern Plains	Moun-tain States	Pacific States
	(10)	(20)	(25)	(25)	(15)	(15)	(15)	(25)	(15)	(15)
Jan. 2, 1980	73	69	65	66	65	64	60	55	67	70
Jan. 9, 1980	73	70	65	67	65	63	59	55	67	70
Jan. 16, 1980	73	71	66	67	66	64	59	55	68	71
Jan. 23, 1980	74	71	66	68	66	65	60	55	69	72
Jan. 30, 1980	74	72	66	68	67	66	61	55	69	73
Feb. 6, 1980	73	71	66	67	66	64	60	54	69	71
Feb. 13, 1980	73	71	66	67	66	64	60	55	69	72
Feb. 20, 1980	73	70	65	66	66	64	60	54	68	72
Feb. 27, 1980	74	70	66	67	67	65	61	55	69	73
Mar. 5, 1980	73	70	65	66	65	63	59	54	68	71
Mar. 12, 1980	73	71	66	67	66	63	60	55	68	71
Mar. 19, 1980	74	71	66	68	66	63	61	56	69	72
Mar. 26, 1980	74	71	66	68	66	64	61	56	70	73
Apr. 2, 1980	73	70	65	67	66	62	60	55	69	71
Apr. 9, 1980	72	70	65	67	65	62	60	55	68	70
Apr. 16, 1980	72	70	64	67	65	62	60	55	68	71
Apr. 23, 1980	73	70	65	67	66	63	61	56	69	72
Apr. 30, 1980	72	71	65	67	66	63	61	56	69	72
May 7, 1980	72	70	64	66	65	62	60	55	68	72
May 14, 1980	72	70	64	66	65	62	61	56	69	72
May 21, 1980	72	70	64	66	66	63	61	56	69	72
May 28, 1980	71	69	64	65	65	62	61	56	69	73
June 4, 1980	71	69	63	65	65	62	60	55	68	71
June 11, 1980	71	69	63	65	65	61	60	55	68	71
June 18, 1980	71	69	64	65	65	62	60	56	69	72
June 25, 1980	71	69	64	65	66	63	60	56	70	73
July 2, 1980	70	69	63	65	65	62	59	55	68	71
July 9, 1980	69	68	62	64	64	61	58	55	68	70
July 16, 1980	70	67	62	64	64	62	59	55	68	71
July 23, 1980	70	68	63	65	65	62	59	56	69	71
July 30, 1980	70	68	62	65	65	63	59	55	69	71
Aug. 6, 1980	69	67	61	64	64	62	59	55	68	70
Aug. 13, 1980	69	66	62	63	64	62	59	55	68	70
Aug. 20, 1980	70	66	62	64	64	63	60	55	68	70
Aug. 27, 1980	70	66	62	64	65	63	60	55	68	71
Sept. 3, 1980	68	66	60	62	63	61	59	54	67	69
Sept. 10, 1980	69	66	61	63	64	62	59	54	67	68
Sept. 17, 1980	69	66	61	63	64	62	60	55	67	69
Sept. 24, 1980	70	66	61	64	64	63	61	56	68	70
Oct. 1, 1980	68	66	60	63	64	62	60	55	67	69
Oct. 8, 1980	68	65	60	63	63	61	59	54	66	68
Oct. 15, 1980	68	64	59	62	63	61	59	54	65	67
Oct. 22, 1980	69	65	59	63	64	62	59	55	66	68

<sup>1</sup> Banks at which farm loans represent at least the percentage of total loans shown in the column headings.

TABLE 4.—ESTIMATES FROM LOAN-DEPOSIT PROJECTION PROJECT, E. MELICHAR, NOV. 17, 1980: AGRICULTURAL INSURED COMMERCIAL BANKS,<sup>1</sup> LOAN/DEPOSIT RATIO (PERCENT)—  
Continued

Date	United States	Corn Belt				Lake States				Plains					Mountain States				
		OH	IN	IL	IO	MO	MI	WI	MN	ND	SD	NB	KS	OK	TX	NM	CO	WY	MT
Dec. 31, 1969	53	54	50	48	56	50	63	54	54	52	56	55	52	51	52	57	62	53	53
June 30, 1970	57	58	53	49	59	56	64	55	59	59	62	55	52	51	52	56	62	61	60
Dec. 31, 1970	54	55	51	48	58	51	62	54	54	58	57	53	51	50	56	62	58	53	53
June 30, 1971	55	57	53	48	59	54	63	55	57	56	60	51	53	50	53	61	63	60	60
Dec. 31, 1971	53	55	50	47	58	48	63	55	54	49	56	59	52	51	51	58	60	57	51
June 30, 1972	56	57	50	48	59	53	65	58	57	55	60	62	54	51	54	64	65	62	58
Dec. 31, 1972	53	54	50	45	56	50	64	57	52	48	56	59	52	53	53	62	60	56	50
June 30, 1973	56	56	51	45	57	54	66	59	55	52	59	65	55	53	56	66	64	64	56
Dec. 31, 1973	54	56	50	46	57	52	66	58	53	49	59	60	52	54	54	69	65	66	60
June 30, 1974	57	60	52	48	57	57	68	60	54	50	62	60	54	54	54	69	65	66	60
Dec. 31, 1974	55	58	53	49	55	53	66	62	55	54	59	57	53	54	53	65	60	60	59
June 30, 1975	56	60	55	49	56	55	66	60	57	54	59	58	55	56	54	62	61	63	58
Dec. 31, 1975	56	58	54	50	57	52	66	60	58	57	60	59	56	56	57	64	68	66	62
June 30, 1976	59	62	56	52	60	56	67	62	61	60	60	64	60	56	57	64	69	63	63
Dec. 31, 1976	60	60	56	54	62	56	68	62	60	62	62	66	62	62	64	69	64	71	66
June 30, 1977	64	66	61	57	66	61	71	67	64	65	67	72	64	58	59	66	68	61	61
Dec. 31, 1977	62	65	61	59	66	58	68	66	62	60	65	66	62	59	60	63	72	63	65
June 30, 1978	64	68	64	61	66	62	70	70	65	61	67	66	64	61	60	64	71	62	62
Dec. 31, 1978	64	67	65	64	67	62	71	70	65	61	68	65	64	61	59	63	76	71	70
June 30, 1979	67	69	67	64	70	66	71	72	70	68	73	69	65	60	61	71	82	64	64
Jan. 2, 1980	64	66	65	61	68	63	70	69	69	64	69	69	62	57	53	60	72	63	64
Jan. 9, 1980	65	66	65	61	69	65	69	70	71	65	70	70	62	57	53	60	74	63	65
Jan. 16, 1980	65	67	65	61	69	65	70	70	72	65	71	71	63	58	53	60	75	65	66
Jan. 23, 1980	66	68	66	61	70	66	71	70	72	67	72	71	64	59	53	61	74	66	66
Jan. 30, 1980	66	68	66	62	70	66	71	71	73	67	72	71	64	59	53	61	74	66	66
Feb. 6, 1980	65	67	65	61	69	65	70	70	71	66	71	70	62	58	52	60	74	65	66
Feb. 13, 1980	65	67	65	61	69	65	69	70	71	66	71	70	63	58	53	60	73	65	66
Feb. 20, 1980	64	66	65	60	68	64	69	69	71	66	70	69	62	58	52	61	74	66	66
Feb. 27, 1980	65	67	66	61	70	66	69	69	71	66	71	70	63	59	53	61	72	65	65
Mar. 5, 1980	64	66	65	60	68	64	69	68	70	65	70	69	62	58	52	60	73	66	66
Mar. 12, 1980	65	67	65	61	70	66	69	69	72	65	70	70	63	59	53	61	74	65	66
Mar. 19, 1980	65	67	65	61	70	66	69	70	71	66	70	71	64	59	54	61	74	66	66
Mar. 26, 1980	66	67	65	61	70	66	70	71	72	66	71	71	64	59	54	61	75	66	67
Apr. 2, 1980	65	66	64	60	68	65	69	70	71	66	70	70	63	58	53	59	73	66	66

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See footnote at end of table.



TABLE 4.—ESTIMATES FROM LOAN-DEPOSIT PROJECTION PROJECT, E. MELICHAIR, NOV. 17, 1980: AGRICULTURAL INSURED COMMERCIAL BANKS,<sup>1</sup> LOAN/DEPOSIT RATIO (PERCENT)

Date	United States	Corn Belt					Lake States				Plains					Mountain States			
		OH	IN	IL	IO	MO	MI	WI	MN	ND	SD	NB	KS	OK	TX	NM	CO	WY	MT
Apr. 9, 1980	64	66	64	60	68	64	68	69	71	65	70	70	63	58	53	59	73	66	65
Apr. 16, 1980	64	66	64	60	67	64	68	70	71	66	70	69	63	58	53	59	73	66	66
Apr. 23, 1980	65	66	64	60	68	65	69	70	71	66	70	63	59	55	60	74	66	66	
Apr. 30, 1980	65	66	64	60	68	65	68	70	71	65	69	69	63	58	54	60	74	66	66
May 7, 1980	64	66	64	60	67	64	67	70	70	65	69	69	63	58	54	60	74	65	66
May 14, 1980	64	66	64	60	67	64	68	70	70	65	68	68	63	58	55	60	74	65	65
May 21, 1980	64	66	64	60	67	64	68	69	70	65	68	69	63	58	56	60	75	64	65
May 28, 1980	64	65	64	59	66	64	68	69	69	64	67	68	62	57	55	60	74	65	65
June 4, 1980	63	65	63	59	66	63	66	68	69	64	67	68	62	57	54	59	74	64	64
June 11, 1980	63	65	63	59	66	63	67	69	69	63	66	68	62	57	54	60	74	64	64
June 18, 1980	64	65	63	59	66	63	67	69	69	64	67	69	62	57	55	60	75	64	65
June 25, 1980	64	66	64	59	67	64	68	69	69	64	67	69	62	58	56	61	76	65	65
July 2, 1980	63	66	62	59	66	63	67	69	69	64	67	68	61	56	55	60	74	64	65
July 9, 1980	63	65	62	58	65	62	67	68	68	63	66	68	60	56	54	59	74	64	64
July 16, 1980	63	65	63	58	65	62	67	68	67	63	66	68	60	55	55	59	74	64	64
July 23, 1980	63	65	63	58	65	62	67	68	67	64	67	68	60	56	55	60	75	64	65
July 30, 1980	63	65	63	58	65	62	68	69	67	64	67	68	60	56	55	59	74	65	65
Aug. 6, 1980	62	64	63	57	64	61	66	68	66	63	66	67	59	55	55	59	73	65	64
Aug. 13, 1980	62	64	63	57	64	61	66	68	65	63	65	67	59	55	55	59	73	65	64
Aug. 20, 1980	62	64	63	58	64	61	67	67	66	63	66	68	59	55	56	59	74	64	65
Aug. 27, 1980	62	65	63	57	64	61	67	67	65	63	65	68	59	55	56	59	74	65	65
Sept. 3, 1980	61	63	62	56	63	60	66	67	65	62	65	66	58	54	54	58	72	63	64
Sept. 10, 1980	61	63	63	57	63	60	66	67	64	62	65	67	59	54	55	59	73	63	63
Sept. 17, 1980	62	64	63	57	63	60	66	67	65	61	64	67	59	54	55	59	74	62	64
Sept. 24, 1980	62	64	63	57	63	60	67	67	65	62	65	68	60	55	56	60	74	62	64
Oct. 1, 1980	61	63	63	57	62	60	66	67	65	62	64	67	59	54	55	59	73	62	63
Oct. 8, 1980	61	62	61	56	61	59	65	66	64	61	64	67	58	54	55	58	72	61	63
Oct. 15, 1980	60	61	60	55	61	58	65	66	63	60	63	65	58	53	54	56	70	60	62
Oct. 22, 1980	61	61	61	55	61	59	66	67	64	60	64	67	59	55	56	57	72	61	62

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<sup>1</sup> Banks at which farm loans represent 25 percent or more of total loans (15 percent in Michigan).

TABLE 5.—FARM NON-REAL-ESTATE LOANS OUTSTANDING AT INSURED COMMERCIAL BANKS

Federal Reserve District and State	Estimated amount, Sept. 30, 1980 (millions)	Percentage change in—								
		1st 3 quarters					Year ending Sept. 30			
		1976	1977	1978	1979	1980	1977	1978	1979	1980
United States.....	\$31,598	14	13	9	9	2	15	7	10	3
1—Boston.....	97	-11	-2	12	-3	-26	12	33	40	-8
2—New York.....	673	-3	14	0	20	29	29	2	33	40
New York.....	668	-4	14	0	20	29	29	2	34	40
3—Philadelphia.....	306	-4	8	9	-1	-9	14	14	4	-2
Pennsylvania <sup>1</sup> .....	294	-6	6	10	0	-6	12	16	6	0
4—Cleveland.....	726	8	21	12	10	6	19	7	9	2
Kentucky <sup>1</sup> .....	202	9	16	13	12	9	11	11	10	4
Ohio.....	506	10	23	12	10	6	23	7	9	2
Pennsylvania <sup>1</sup> .....	16	-25	21	-2	3	-11	11	-16	-4	-11
5—Richmond.....	689	24	28	13	14	15	14	2	-1	4
Maryland.....	64	11	12	1	-5	14	15	-2	-7	16
North Carolina.....	308	47	34	20	19	22	13	5	-6	8
South Carolina.....	87	26	35	5	15	15	28	-10	8	4
Virginia.....	198	7	25	14	16	9	11	4	7	-4
West Virginia <sup>1</sup> .....	33	-3	18	1	5	2	14	2	-3	-1
6—Atlanta.....	1,299	15	25	5	12	9	21	-3	8	-1
Alabama.....	288	26	33	2	21	12	23	-8	9	-5
Florida.....	160	-2	1	-12	-3	-6	8	-5	14	-5
Georgia.....	337	21	26	3	11	2	24	-11	12	-3
Louisiana <sup>1</sup> .....	156	9	45	33	8	35	27	20	-3	10
Mississippi <sup>1</sup> .....	155	20	30	11	32	27	20	-1	12	6
Tennessee <sup>1</sup> .....	203	7	20	8	6	4	20	8	6	-1
7—Chicago.....	6,759	10	14	7	7	-3	22	7	11	1
Illinois <sup>1</sup> .....	1,585	8	14	9	2	-3	23	9	8	-2
Indiana <sup>1</sup> .....	808	16	23	15	10	4	24	11	10	2
Iowa.....	3,318	9	12	2	8	-6	23	4	16	3
Michigan <sup>1</sup> .....	407	20	20	9	8	3	18	3	3	-2
Wisconsin <sup>1</sup> .....	641	9	14	13	9	5	17	13	7	4
8—St. Louis.....	2,401	20	24	17	13	10	19	9	5	1
Arkansas.....	450	32	45	28	12	24	20	8	-5	-1
Illinois <sup>1</sup> .....	543	14	20	15	8	0	26	11	7	-3
Indiana <sup>1</sup> .....	172	13	19	14	12	5	21	11	8	1
Kentucky <sup>1</sup> .....	302	16	15	14	10	14	13	11	3	7
Mississippi <sup>1</sup> .....	219	18	36	20	33	30	16	3	5	3
Missouri <sup>1</sup> .....	572	16	10	10	12	4	16	9	12	3
Tennessee <sup>1</sup> .....	144	31	44	19	26	19	17	1	5	-3
9—Minneapolis.....	4,382	9	9	11	17	-2	12	10	18	0
Michigan <sup>1</sup> .....	8	12	1	11	10	-18	2	8	15	-20
Minnesota.....	1,868	8	14	16	17	-2	18	13	19	1
Montana.....	537	18	4	8	18	6	2	7	11	-4
North Dakota.....	746	11	4	9	23	-2	6	5	23	-3
South Dakota.....	1,027	5	8	8	15	-6	13	11	20	0
Wisconsin <sup>1</sup> .....	195	11	16	9	13	3	20	10	11	7
10—Kansas City.....	6,973	16	8	5	6	-1	12	4	9	3
Colorado.....	783	20	9	7	5	6	12	3	4	2
Kansas.....	1,886	13	4	3	3	-5	10	6	8	2
Missouri <sup>1</sup> .....	701	16	12	11	10	-2	14	12	12	4
Nebraska.....	2,326	19	12	7	11	0	17	2	10	5
New Mexico <sup>1</sup> .....	43	5	12	17	14	-5	7	7	4	-13
Oklahoma <sup>1</sup> .....	1,009	8	4	-2	1	-2	6	6	11	0
Wyoming.....	225	23	2	0	12	6	-2	-4	5	-2
11—Dallas.....	2,658	18	14	14	0	8	12	6	-1	5
Louisiana <sup>1</sup> .....	171	46	54	33	22	42	22	2	-3	8
New Mexico <sup>1</sup> .....	141	18	9	9	1	5	4	0	-2	1
Oklahoma <sup>1</sup> .....	53	22	18	10	-16	4	12	12	-17	3
Texas.....	2,293	16	12	13	-2	6	12	7	0	5
12—San Francisco.....	4,635	17	11	13	13	5	8	10	11	4
Arizona.....	410	-9	23	14	12	0	5	16	21	1
California.....	2,792	14	10	14	12	5	11	12	12	8
Hawaii.....	15	-4	-12	-11	-22	24	32	10	-6	15
Idaho.....	382	28	5	6	12	5	-5	-3	-1	-5
Nevada.....	19	21	27	1	17	-2	13	24	-2	-19
Oregon.....	329	33	9	13	10	18	5	11	5	14
Utah.....	98	17	2	-1	-3	7	10	2	-3	-5
Washington.....	590	38	19	17	23	1	11	11	12	-6

<sup>1</sup> Portion of State in specified Federal Reserve District.

TABLE 6.—SELECTED SOURCES OF FUNDS AS A PERCENTAGE OF TOTAL BANKING RESOURCES

End of month	All banks	Agricultural banks	Nonagricultural banks with total assets—	
			Under \$500,000,000	\$500,000,000 and over
<b>Net purchases of Federal funds:<sup>1</sup></b>				
1978:				
March.....	3.9	-4.3	-1.4	8.5
June.....	3.9	-2.8	-0.7	7.7
September.....	4.2	-2.0	-0.8	8.3
December.....	3.4	-2.8	-1.1	6.8
1979:				
March.....	4.7	-2.5	-0.5	8.9
June.....	4.6	-2.3	-0.9	8.8
September.....	4.1	-2.6	-2.0	8.5
December.....	3.7	-3.6	-2.4	8.0
1980:				
March.....	3.7	-4.0	-2.1	7.9
June.....	4.1	-5.2	-2.7	9.2
<b>Time certificates of deposit of \$100,000 or more:</b>				
1978:				
March.....	12.8	4.7	9.5	16.1
June.....	13.0	4.8	9.4	16.3
September.....	13.4	5.0	9.8	16.7
December.....	14.0	5.1	10.1	17.3
1979:				
March.....	14.1	5.3	11.1	17.0
June.....	12.8	5.3	11.0	14.7
September.....	13.2	5.5	10.9	15.4
December.....	13.3	5.6	11.0	15.4
1980:				
March.....	13.7	6.0	11.5	15.8
June.....	13.1	6.1	11.0	15.0
<b>Money-market certificates of deposit:<sup>2</sup></b>				
1979:				
March.....	3.3	5.7	4.7	2.1
June.....	4.5	8.5	6.5	2.8
September.....	5.7	11.4	8.4	3.5
December.....	7.6	14.9	11.2	4.7
1980:				
March.....	10.2	21.7	15.1	6.2
June.....	10.7	22.6	15.6	6.6

<sup>1</sup> Includes net securities sold under agreements to repurchase.

<sup>2</sup> Does not include "small-saver" certificates with a minimum maturity of 30 mo, which were introduced in 1979.

TABLE 7.—PERCENTAGE DISTRIBUTION OF NON-REAL-ESTATE FARM LOANS MADE BY BANKS, BY EFFECTIVE INTEREST RATE<sup>1,2</sup>

Effective interest rate (percent)	Aug. 1977	Feb. 1978	Aug. 1978	Feb. 1979	Aug. 1979	Nov. 1979	Feb. 1980	May 1980	Aug. 1980
<b>ALL BANKS</b>									
All loans.....	100	100	100	100	100	100	100	100	100
Under 7.....	2								
7 to 7.9.....	11	1							
8 to 8.9.....	48	38	20	4	2		1		
9 to 9.9.....	34	50	50	17	11	1	1		
10 to 10.9.....	4	9	22	35	29	7	2		1
11 to 11.9.....		1	6	19	33	10	2		10
12 to 12.9.....			1	12	14	15	7	1	17
13 to 13.9.....				6	7	35	29	4	43
14 to 14.9.....				6	5	13	31	9	19
15 to 15.9.....					1	4	10	7	9
16 to 16.9.....						6	10	12	1
17 to 17.9.....						5	4	34	1
18 to 18.9.....						3	2	18	
19 to 19.9.....								9	
20 and over.....								6	
<b>ADDENDUM</b>									
Average effective interest rate (percent) <sup>2</sup> at—									
All banks.....	8.73	9.16	9.62	11.01	11.28	13.63	14.13	17.38	13.51
Large banks <sup>3</sup> .....	8.40	9.32	10.37	12.53	12.88	16.24	15.94	18.47	12.84
Other banks.....	8.91	9.11	9.34	10.45	10.93	13.10	13.73	17.06	13.66

<sup>1</sup> Percentage distribution of the total dollar amount of non-real-estate farm loans of \$1,000 or more made by insured commercial banks during the week covered by the survey.

<sup>2</sup> The approximate compounded annual interest rate on each loan is calculated from survey data on the stated rate and other terms of the loan. In computing the average of these estimated effective rates, each loan is weighted by its dollar amount.

<sup>3</sup> Large banks are banks in survey strata 1-3, corresponding approximately to banks with over \$400,000,000 in total assets as of September 1978.

Source: Federal Reserve quarterly survey of terms of bank lending to farmers.

TABLE 8.—PERCENTAGE DISTRIBUTION OF NON-REAL-ESTATE FARM LOANS MADE BY LARGE AND OTHER BANKS, BY EFFECTIVE INTEREST RATE<sup>1,2</sup>

Effective interest rate (percent)	Aug. 1977	Feb. 1978	Aug. 1978	Feb. 1979	Aug. 1979	Nov. 1979	Feb. 1979	May 1980	Aug. 1980
<b>LARGE BANKS<sup>3</sup></b>									
All loans.....	100	100	100	100	100	100	100	100	100
Under 7.....	3		1						
7 to 7.9.....	30	1							
8 to 8.9.....	43	34	1						
9 to 9.9.....	17	41	30	2	1				
10 to 10.9.....	7	20	44	19	11				
11 to 11.9.....		4	20	12	10	1			16
12 to 12.9.....			3	28	33	6	4		43
13 to 13.9.....				17	22	13	8	1	31
14 to 14.9.....				20	20	4	14	2	6
15 to 15.9.....				2	3	8	18	5	2
16 to 16.9.....						24	32	4	1
17 to 17.9.....						23	15	32	
18 to 18.9.....						17	8	27	
19 to 19.9.....						1	1	12	
20 and over.....								17	
<b>OTHER BANKS</b>									
All loans.....	100	100	100	100	100	100	100	100	100
Under 7.....	1								
7 to 7.9.....									
8 to 8.9.....	51	38	27	5	2		2		
9 to 9.9.....	43	56	58	23	13	1	1		
10 to 10.9.....	3	5	13	41	33	9	3		1
11 to 11.9.....			1	22	38	12	3		8
12 to 12.9.....				6	10	16	8	1	11
13 to 13.9.....				2	3	39	33	4	45
14 to 14.9.....				1	1	15	35	11	23
15 to 15.9.....				2	3	3	8	7	10
16 to 16.9.....						2	5	14	1
17 to 17.9.....						2	2	35	1
18 to 18.9.....						1		15	
19 to 19.9.....								8	
20 and over.....								3	

<sup>1</sup> Percentage distribution of the total dollar amount of non-real-estate farm loans of \$1,000 or more made by insured commercial banks during the week covered by the survey.

<sup>2</sup> The approximate compounded annual interest rate on each loan is calculated from survey data on the stated rate and other terms of the loan. In computing the average of these estimated effective rates, each loan is weighted by its dollar amount.

<sup>3</sup> Large banks are banks in survey strata 1-3, corresponding approximately to banks with over \$400,000,000 in total assets as of September 1978.

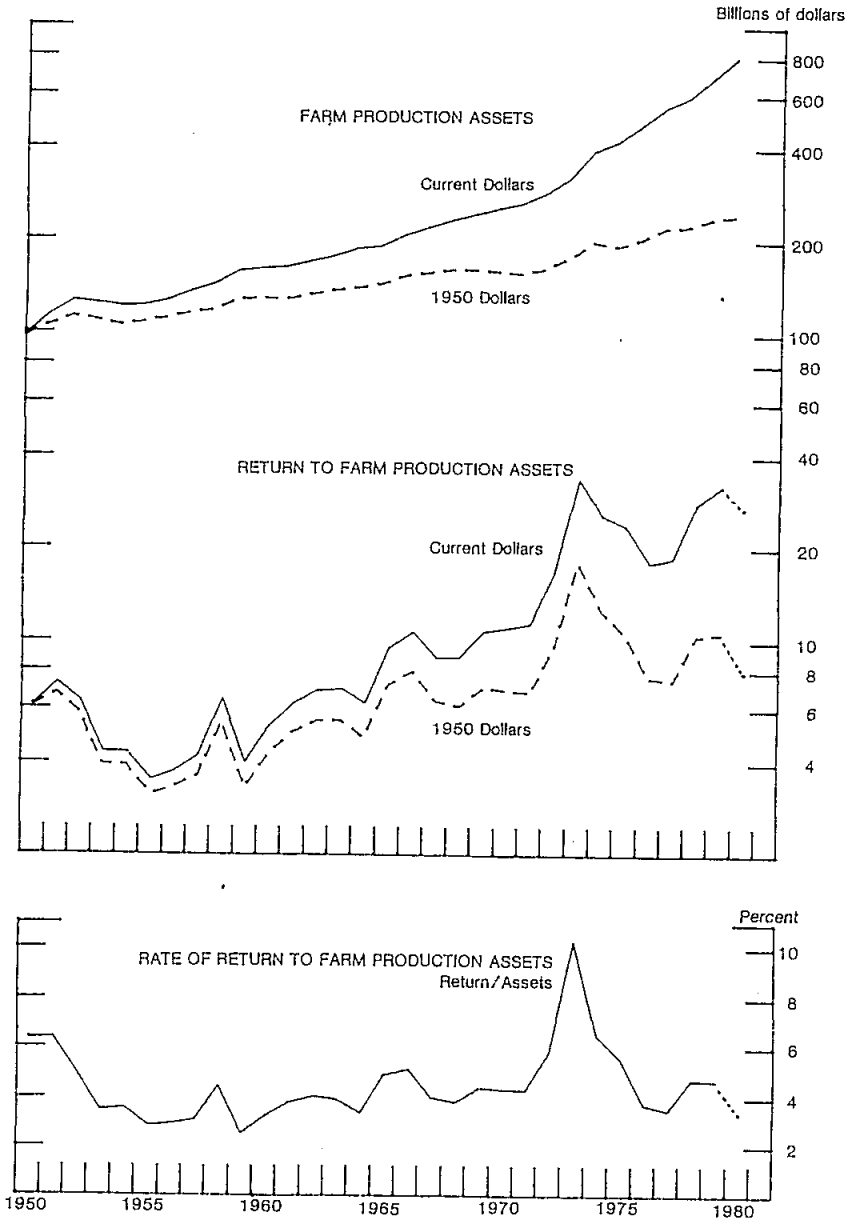
Source: Federal Reserve quarterly survey of terms of bank lending to farmers.

#### REFERENCES

- "Return to Equity Capital in the U.S. Farm Production Sector," by J. Bruce Hotel and Carson D. Evans, *Balance Sheet of the Farming Sector, 1979 Supplement*, Agriculture Information Bulletin 430, ESCS, U.S. Department of Agriculture, February 1980, pp. 51-68.
- "Capital Gains versus Current Income in the Farming Sector," by Emanuel Melichar, *American Journal of Agricultural Economics*, December 1979, pp. 1085-1092. (A more detailed version of this paper is available from the author.)
- Results of quarterly Federal Reserve Bank surveys of credit conditions at rural banks appear in the following publications, for which mailing lists are maintained by the respective Federal Reserve Banks:
- "Farm Credit Conditions in the Fifth District," Federal Reserve Bank of Richmond, Richmond, Va. 23261.
- Agricultural Letter*, Federal Reserve Bank of Chicago, P.O. Box 834, Chicago, Ill. 60690.
- "Agricultural Credit Conditions Survey," Federal Reserve Bank of Minneapolis, Minneapolis, Minn. 55480.
- Financial Letter*, Federal Reserve Bank of Kansas City, Federal Reserve P.O. Station, Kansas City, Mo. 64198.
- "Quarterly Survey of Agricultural Credit Conditions in the Eleventh Federal Reserve District," *Statistical Release*, Federal Reserve Bank of Dallas, Station K, Dallas, Tex. 75222.

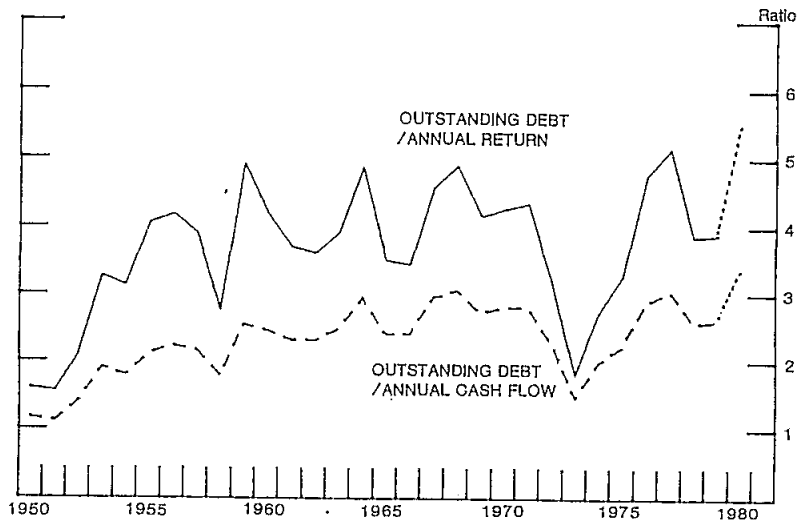
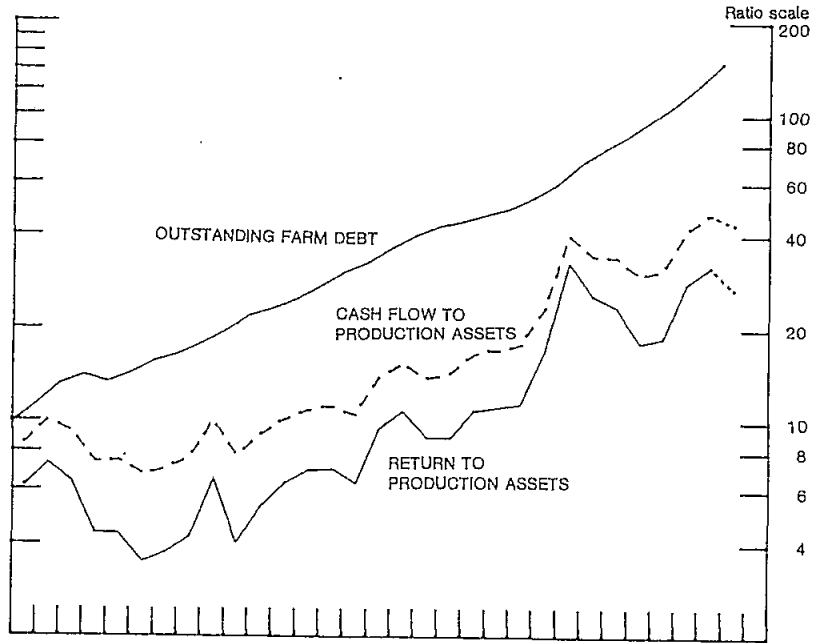
Chart 1

Return to Farm Assets Compared with Value of Assets



Returns shown for 1980 are based on USDA forecasts of farm income and expenses published in March 1980.

Chart 2  
**Farm Debt Compared with Income Flows to Farm Production Assets**



Farm debt excludes CCC loans and debt on operators' dwellings

Income flows shown for 1980 are based on USDA forecasts of farm income and expenses published in March 1980.

Chart 3

Average Loan/Deposit Ratio at Insured Commercial Banks  
Quarterly

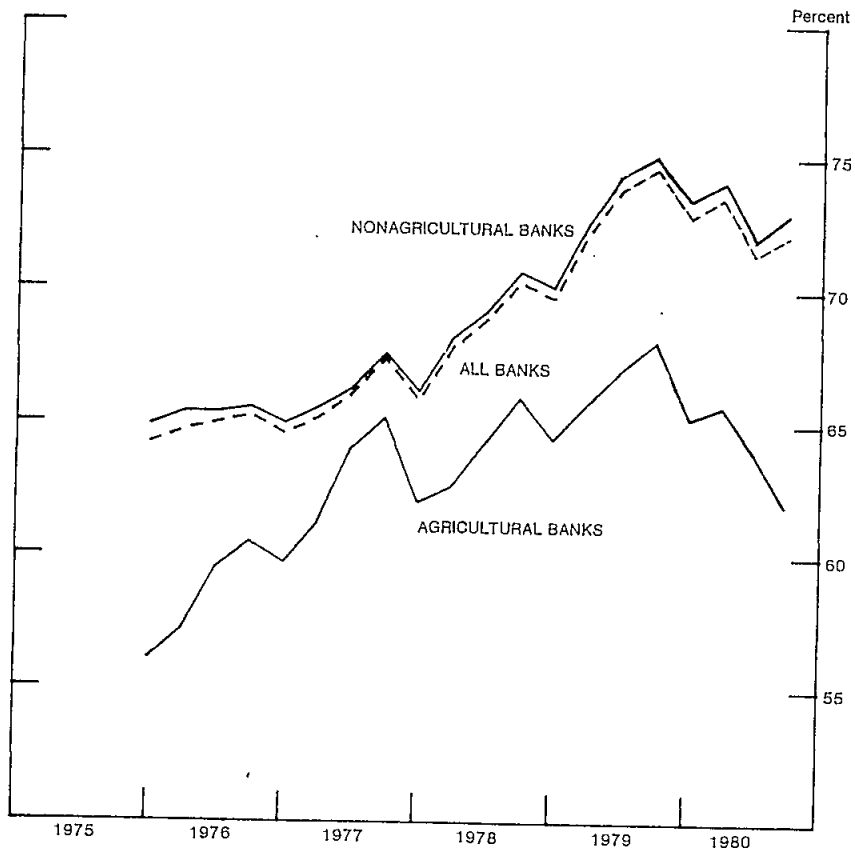


Chart 4

**Average Farm Loan Interest Rates at Rural Banks Compared With Prime Rate**  
Quarterly  
First Day of Quarter

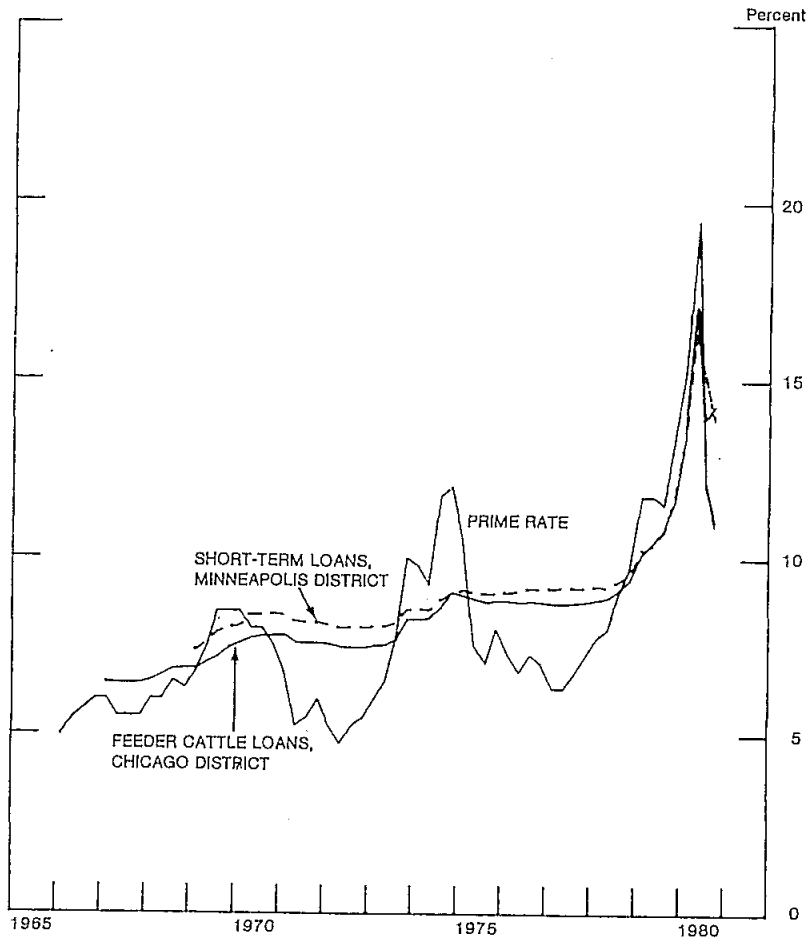
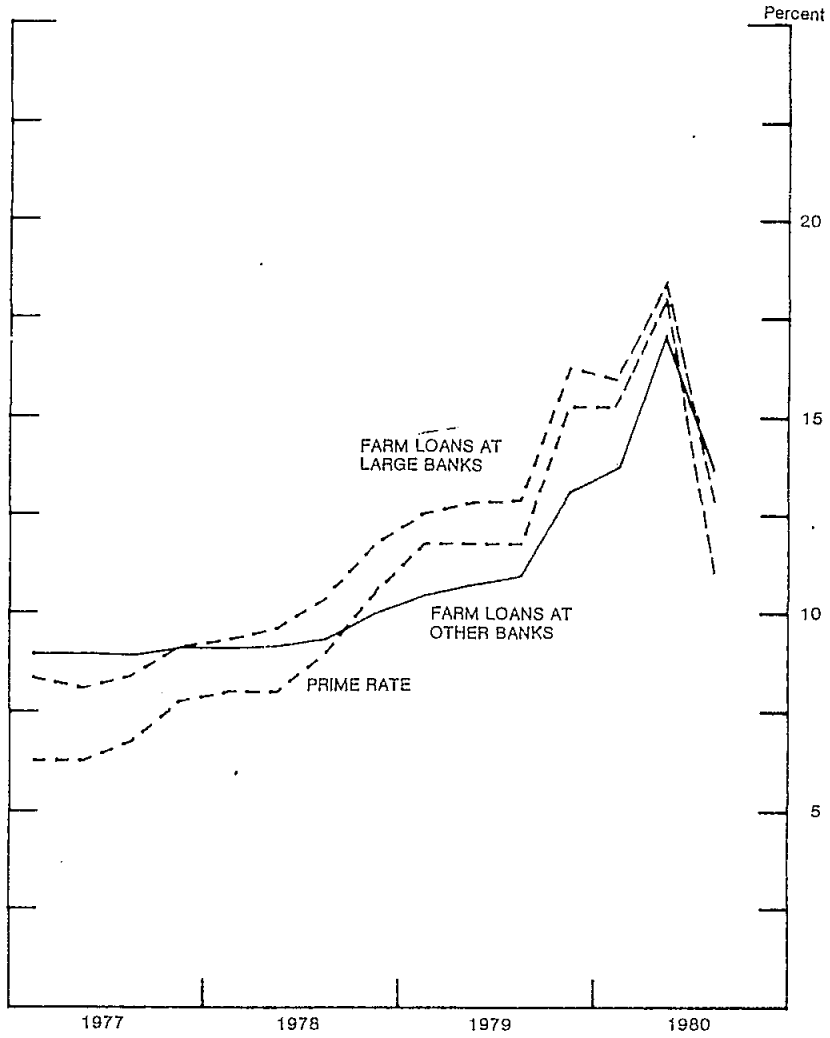




Chart 5

**Interest Rates Charged By Commercial Banks  
First Week of Second Month of Quarter**



Source: Federal Reserve Quarterly Survey of Terms of Bank Lending to Farmers.

"Large banks" are banks in survey strata 1-3, corresponding approximately to banks which now have over \$400 million in total assets.