

Updated Agricultural and Banking Data

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Table 1a

Farm cash flow, income, and total return in selected periods
(Data excluding farm households)

Item	Pre-boom	Boom	Recession	Boom	Recession	
	1970-71	I 1972-75	I 1976-77	II 1978-79	II 1980-84	
<u>Derivation of cash flow (annual average, billions of 1984 dollars)</u>						
1	Gross income.....	134	173	162	184	163
2	Less: Operating expenses.....	76	90	96	104	95
3	Equals: Cash flow before interest...	58	83	66	80	67
4	Less: Interest.....	8	10	12	16	21
5	Equals: Cash flow after interest....	50	74	53	64	46
<u>Derivation of net income and total return (annual average, billions of 1984 dollars)</u>						
6	Cash flow before interest...	58	83	66	80	67
7	Less: Depreciation.....	14	17	20	22	21
8	Less: Imputed return to operators' labor and management....	31	30	29	29	27
9	Equals: Income from assets.....	13	37	16	29	19
10	Less: Interest.....	8	10	12	16	21
11	Equals: Income from equity.....	5	27	4	14	-2
12	Plus: Real capital gain.....	14	62	76	86	-43
13	Equals: Total real return from equity.....	19	89	79	100	-46
<u>Balance sheet (end of period, billions of 1984 dollars)</u>						
14	Assets.....	683	880	1017	1183	893
15	Less: Debt.....	124	146	176	200	195
16	Equals: Equity.....	559	734	840	982	697
<u>Rates (percent)</u>						
17	Income return to assets.....	1.9	4.7	1.7	2.6	1.8
18	Real capital gain on assets.....	1.4	6.7	7.0	6.4	-5.2
19	Total real return to assets.....	3.4	11.3	8.7	9.0	-3.4
20	Interest paid.....	6.4	7.1	7.7	8.4	10.4
21	Real rate of interest.....	2.5	.7	2.8	.3	5.1
22	Total real return to equity.....	3.5	13.5	9.9	10.8	-5.4

Data are from Agricultural Finance Databook, Board of Governors of the Federal Reserve System, December 1984, Tables 101, 112, and 122.

Table 2

Rate of income return to equity, by relative level and cost of debt

Ratio of debt to assets (percent)	Interest rate on outstanding debt (percent)		
	7	11	15
	Income return to equity (percent)		
0.....	2.0	2.0	2.0
10.....	1.4	1.0	.6
20.....	.8	-.2	-1.2
30.....	-.1	-1.9	-3.6
40.....	-1.3	-4.0	-6.7
50.....	-3.0	-7.0	-11.0
60.....	-5.5	-11.5	-17.5
70.....	-9.7	-19.0	-28.3
80.....	-18.0	-34.0	-50.0
90.....	-43.0	-79.0	-115.0

This table assumes a farm on which the rate of income return to assets is 2 percent, approximately the average for the farm sector in 1980-83. To illustrate the calculations reported here: if the farm also had the average ratio of debt to assets for the farm sector, 20 percent, and the average interest rate, 11 percent, its rate of income return to equity was -0.2 percent.

Reproduced from "A Financial Perspective on Agriculture,"
Federal Reserve Bulletin, January 1984, p. 9, Table 3.

Table 4

Estimated percentage distribution of farm operators and their assets, debt, and off-farm income, by size of farm, January 1, 1984

Size of farm Annual value of farm products sold (thousands of dollars)	Operators	Assets	Debt	Off-farm income
All farms.....	100	100	100	100
500 and over....	1	10	18	2
200 to 499.....	3	13	18	3
100 to 199.....	7	16	21	5
40 to 99.....	16	22	22	10
20 to 39.....	11	10	7	9
10 to 19.....	12	8	5	12
5 to 9.....	13	6	3	16
2.5 to 4.9.....	14	6	2	16
Under 2.5.....	23	8	4	27

Operators, assets, and debt are as of January 1, 1984, estimated as described in the note to Table 3. Off-farm income data are USDA estimates for 1983, from ERS ECIFS 3-3, p. 89.

Table 6

Estimated percentage distribution of farm operators and their assets, debt, and gross and net farm income, by size of farm, January 1, 1984

Size of farm Annual value of farm products sold (thousands of dollars)	Operators	Assets	Debt	Gross cash farm income	Net farm income
All farms.....	100	100	100	100	100
500 and over....	1	10	18	29	48
200 to 499.....	3	13	18	19	19
100 to 199.....	7	16	21	19	17
40 to 99.....	16	22	22	20	15
20 to 39.....	11	10	7	6	3
10 to 19.....	12	8	5	3	0
5 to 9.....	13	6	3	2	0
2.5 to 4.9.....	14	6	2	1	-1
Under 2.5.....	23	8	4	1	-1

Operators, assets, and debt are as of January 1, 1984, estimated as described in the note to Table 3.

Farm income data are USDA estimates for 1983, from ERS ECIFS 3-3, pp. 85 and 88.

Table 8

Estimated percentage distribution of all farm operators and their debt and assets, by relative debt level and size groups, January 1, 1984

Size of farm Annual value of farm products sold (thousands of dollars)	Ratio of farm operator debt to assets (percent)			
	0-10	11-40	41-70	71 and over

Percentage of grand total

Operators

500 and over.....	.2	.4	.3	.2	
200 to 499.....	.7	1.2	.8	.6	
100 to 199.....	1.9	2.8	1.5	1.2	8.8
40 to 99.....	6.0	5.2	2.7	2.1	
20 to 39.....	5.4	3.2	1.3	1.0	
10 to 19.....	6.9	2.6	1.1	.9	
5 to 9.....	9.0	2.1	1.1	.7	
2.5 to 4.9.....	10.1	2.3	.9	.6	
Under 2.5.....	17.4	3.7	1.5	.7	

Assets

500 and over.....	2.3	3.8	2.3	1.8	
200 to 499.....	3.7	4.9	2.7	1.6	
100 to 199.....	4.9	6.9	2.9	1.6	13.8
40 to 99.....	9.6	7.4	3.2	1.7	
20 to 39.....	5.5	2.8	.9	.5	
10 to 19.....	5.1	1.8	.6	.3	
5 to 9.....	4.6	1.1	.5	.2	
2.5 to 4.9.....	4.7	1.0	.3	.1	
Under 2.5.....	6.1	1.6	.5	.2	

Debt

500 and over.....	.4	4.0	5.2	8.1	
200 to 499.....	.5	5.2	6.1	6.3	
100 to 199.....	.8	7.1	6.5	6.3	39.2
40 to 99.....	1.2	7.2	7.2	6.8	
20 to 39.....	.5	2.7	2.0	1.9	
10 to 19.....	.4	1.6	1.4	1.3	
5 to 9.....	.3	1.0	1.0	1.0	
2.5 to 4.9.....	.2	.9	.8	.6	
Under 2.5.....	.3	1.5	1.2	.7	

See note to Table 3.

Table 9

Estimated percentage distribution of operators and their debt and assets on farms with annual sales from \$40,000 to \$499,999, by relative debt level and size groups, January 1, 1984

Size of farm Annual value of farm products sold (thousands of dollars)	Ratio of farm operator debt to assets (percent)			
	Little or no debt (0-10)	Moderate debt (11-40)	Heavy debt (41 and over)	Total
All farms in this group:				
	<u>Percentage of total</u>			
Operators.....	32	35	33	100
Assets.....	36	38	27	100
Debt.....	4	32	64	100
<u>Operators, percentage of total in size class</u>				
Large (200 to 499).....	22	35	43	100
Mid-sized (100 to 199).....	26	38	36	100
Small (40 to 99).....	38	33	30	100
<u>Operators, percentage of total in debt class</u>				
Large (200 to 499).....	8	13	16	13
Mid-sized (100 to 199).....	22	31	30	28
Small (40 to 99).....	69	56	54	60
	100	100	100	100

See note to Table 3.

Table 2

Delinquent loans as percentage of total loans outstanding
(Insured commercial banks)

Class of banks	Sept. 30 1983	Sept. 30 1984
<u>Loans delinquent (past due, nonaccrual, and renegotiated)</u>		
All banks.....	5.5	4.5
Large.....	5.9	4.5
Small.....	4.8	4.6
Nonagricultural.....	4.8	4.5
Agricultural.....	5.0	5.5
<u>Loans past due 30 to 89 days and still accruing interest</u>		
All banks.....	1.9	1.7
Large.....	1.8	1.5
Small.....	2.1	2.1
Nonagricultural.....	2.1	2.1
Agricultural.....	1.9	2.0
<u>Loans past due 90 days or more and still accruing interest</u>		
All banks.....	1.0	.7
Large.....	.9	.5
Small.....	1.3	1.1
Nonagricultural.....	1.3	1.0
Agricultural.....	1.7	1.6
<u>Nonaccrual loans</u>		
All banks.....	2.2	1.9
Large.....	2.7	2.2
Small.....	1.2	1.3
Nonagricultural.....	1.2	1.2
Agricultural.....	1.1	1.8

Large banks have total assets of \$500 million or more.

Agricultural banks are banks at which total farm loans account for 25 percent or more of total loans.

Table 3

Percentage distribution of banks by farm loan and delinquency ratios
September 30, 1984

Delinquent loans as a percentage of total loans	Farm loans as a percentage of total loans at bank					
	Under 1	1 to 4	5 to 9	10 to 24	25 to 49	50 and over
	<u>Number of banks</u>					
Total.....	4,657	2,120	1,269	2,286	2,330	1,757
Under 2.0.....	1,399	460	252	402	436	519
2.0 to 3.9.....	1,395	686	354	610	571	399
4.0 to 5.9.....	797	445	294	531	501	295
6.0 to 7.9.....	474	242	194	321	330	206
8.0 to 9.9.....	237	138	92	187	197	120
10.0 to 14.9.....	243	101	55	176	227	139
15.0 to 19.9.....	79	35	17	37	50	48
20.0 to 24.9.....	12	8	6	14	10	20
25.0 to 29.9.....	13	2	5	4	6	4
30.0 and over.....	8	3	-	4	2	7
Addendum:						
10.0 and over...	355	149	83	235	295	218
	<u>Percentage of banks in farm loan ratio class</u>					
Total.....	100.0	100.0	100.0	100.0	100.0	100.0
Under 2.0.....	30.0	21.7	19.9	17.6	18.7	29.5
2.0 to 3.9.....	30.0	32.4	27.9	26.7	24.5	22.7
4.0 to 5.9.....	17.1	21.0	23.2	23.2	21.5	16.8
6.0 to 7.9.....	10.2	11.4	15.3	14.0	14.2	11.7
8.0 to 9.9.....	5.1	6.5	7.2	8.2	8.5	6.8
10.0 to 14.9.....	5.2	4.8	4.3	7.7	9.7	7.9
15.0 to 19.9.....	1.7	1.7	1.3	1.6	2.1	2.7
20.0 to 24.9.....	.3	.4	.5	.6	.4	1.1
25.0 to 29.9.....	.3	.1	.4	.2	.3	.2
30.0 and over.....	.2	.1	—	.2	.1	.4
Addendum:						
10.0 and over...	7.6	7.0	6.5	10.3	12.7	12.4

Delinquent loans are loans past due 30 days or more, nonaccrual loans, and renegotiated "troubled" debt. Loans include lease financing receivables.

Table 5

Percentage distribution of agricultural banks by delinquent loan ratio

Delinquent loans as a percentage of total loans	12/30	3/31	6/30	9/30	12/31	3/31	6/30	9/30
	1982	1983	1983	1983	1983	1984	1984	1984
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 2.0.....	30.0	25.8	29.2	27.1	25.8	22.0	23.5	23.4
2.0 to 3.9.....	26.8	25.7	28.2	27.2	25.7	22.6	24.8	23.7
4.0 to 5.9.....	18.2	18.9	18.9	17.8	18.7	18.1	19.0	19.5
6.0 to 7.9.....	11.4	12.2	10.5	13.1	11.7	13.3	13.4	13.1
8.0 to 9.9.....	6.1	7.4	6.2	6.1	7.7	9.0	8.1	7.8
10.0 to 14.9.....	5.6	7.6	5.3	6.6	7.8	10.7	7.3	9.0
15.0 to 19.9.....	1.2	1.6	1.0	1.4	1.6	2.6	2.6	2.4
20.0 to 24.9.....	.4	.6	.5	.6	.7	1.2	.7	.7
25.0 to 29.9.....	.1	.1	*	*	.2	.4	.3	.2
30.0 and over.....	*	.1	.2	*	.1	.2	.3	.2
Addendum:								
10.0 and over...	7.4	10.0	6.9	8.7	10.5	15.0	11.2	12.6

* Less than 0.05 percent.

Agricultural banks are insured commercial banks at which total farm loans account for 25 percent or more of total loans.

Delinquent loans are loans past due 30 days or more, nonaccrual loans, and renegotiated "troubled" debt. Loans include lease financing receivables.